

MA Media Design

Nature & Technology

Peter Ha
peter.ha@etu.hesge.ch

Assignment 1

April 28, 2025

Research Questions

- 1 What processes should be in place to ethically create and consume technology?
- 2 How can we use existing lo-fi tech to understand the environment around us?
- 3 How can nature-based algorithms reveal aspects of nature?
- 4 How can connect and re-connect with space?
- 5 How can technology and nature have a symbiotic relationship?

Terms/Topics

Animal Locomotion

The study of how animals move through observation, recordings or computer programs.

Anthropocene

A geological era where humans are the driving force for the structural changes on Earth.

Biomimicry

Studying nature to solve complex human problems. Classic example are the hooks on bur fruits inspiring the invention of Velcro.

Data Sonification

The process of taking raw data and producing sounds with them. There are different processes such as audification, earcons and parameter mapping.

Lunar Effect

The moon's phases throughout the 29.5-day cycle influencing human and non-humans.

Philosophy of Technology

A sub-domain of philosophy examining the nature of technology and the impact on culture and society.

Situated Practice

A design practice that's contextual based in understanding the features and characteristics of the location and the inhabitants, whether human or non-human.

Technosphere

Global network of humans being connected through technological systems.

Wood Wide Web

The mycorrhizal network that lives underground in forests and plants where trees and plants use to share resources and communicate with one another.

Visuals

A collection of references that sparks my curiosity.



Captain Planet and the Planeteers

Ted Turner, Barbara Pyle

1990–1996

A cartoon where a group of teenagers unite from around the world to fight personified environmental villains.

<https://captainplanetfoundation.org/about/our-story/captain-planet-the-planeteers-legacy/>

Fall 1968
\$5

access to tools



Methodically blow your mind. The information in this book is mutually massaged by the American and Soviet co-authors, proceeds from superb introductions to evolutionary astronomy and biology, through a complete presentation of recent discoveries of astronomy and space science, to brilliant speculation on the parameters of inter-civilization communication. It's the best general astronomy book of recent years but that's nothing next to its impact on all the biggest questions we know.

The existence of more than one universe is impossible, by definition.

In our discussion up to this point, we have considered only interstellar radio contact among civilizations at or just slightly beyond our present state of technical advance. Yet the bulk of technical civilizations that we have considered are expected to arise in the next 100 to 1,000 millions of years beyond. The Soviet astrophysicist N.S. Kardashev, as an associate of I.S. Shklovskii at the Sternberg Astronomical Institute, has considered the possibility of civilizations that will arise at much greater technical advances. He classifies possible technologically advanced civilizations in three categories: (I) At a level of technological advance close to that of our own, the rate of energy utilization is of the order of 10^{26} ergs per second. (II) A civilization capable of utilizing and channeling the entire radiative output of its star. The energy utilization rate is of the order of 10^{32} ergs per second. (III) A civilization capable of harnessing the energy of the entire galaxy. The rate of energy utilization is of the order of 10^{46} ergs per second. In Chapter 34, we will consider a specific proposal for the harnessing of such power. (IV) A civilization with access to the energy of the entire universe. The rate of energy utilization is of the order of 10^{50} ergs per second.

Taken at face value, the legend suggests that contact occurred between human beings and a non-human civilization of immense powers on the shores of the Persian Gulf, perhaps near the site of the ancient Sumerian city of Eridu, and in the fourth millennium B.C. or earlier. There are three different but cross-referenced accounts of the *Akashu* dating from classical times.

Almost any other of the many accounts of alleged contacts of human beings with the crews of flying saucers—accounts which regale the flying saucer societies—follow the same pattern and stress the same points. The extraterrestrials are human, with few even minor physical differences from local cosmetic standards. I know of no case of Negro saucerians, or Oriental saucerians, reported in the United States; but there are very few flying saucer reports made in this country by Negroes or by Orientals.)



Hardcover edition
Intelligent Life in the Universe
I.S. Shklovskii and Carl Sagan
1966: £9.95

\$9.95 postpaid

from:
Holden-Day, Inc.
500 Sansome Street
San Francisco, California 94111

or \$2.95 per issue

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Delta Books
c/o Montville Warehousing Co., Inc.
Changebridge Rd.
Pine Brook, N.J. 07068
900 Pratt Blvd.

1104 S. Lawrence Street
Los Angeles, Calif. 90021
or
WHOLE EARTH CATALOG

But how can a natural satellite have such a low density? The material of which it is made must have a certain amount of rigidity, so that cohesive forces will be stronger than the gravitational tidal forces of Mars, which will tend to disrupt the satellite. Such rigidity would ordinarily exclude densities below about 0.1 g cm^{-3} . Thus, only one possibility remains. Could Phobos be indeed rigid, on the outside but hollow in the inside? A natural satellite cannot be a hollow object. Therefore, we are led to the possibility that Phobos—and possibly Deimos as well—may be artificial satellites of Mars.

"Well, ladies and gentlemen," Struve concluded, "it was pretty dull on Epsilon Eridani and Tau Ceti eleven years ago."

With 10^{11} stars in our Galaxy and 10^9 other galaxies, there are at least 10^{20} stars in the universe. Most of them, as we shall see in subsequent chapters, may be accompanied by solar systems. If there are 10^{10} solar systems in the universe, and the universe is 10^{10} years old—and if, further, solar systems have formed roughly uniformly, time—then one solar system is formed every 10^{-10} yr $\approx 3 \times 10^{-3}$ seconds. On the average, a million solar systems are formed in the universe each hour.

— The McGraw-Hill Encyclopedia of Space

Merry Christmas? A big candy-colored multi-national compendium of Earth's effort to get its rocks off. If the cost gets you, wait eight months until it's remaindered.

The McGraw-Hill Encyclopedia of Space
1968; 831 pp.

\$27.50 cost paid

\$23.95 postpaid before January 1, 1969

from:
McGraw-Hill Book Company
Princeton Road
Hightstown, N.J. 08520
Manchester Road
Manchester, Missouri 63062
8171 Redwood Highway
Novato, California 94947

The information contained in a single human sperm cell is equivalent to that of 133 volumes, each of the size and fineness of print of Webster's Unabridged Dictionary.

So, by an interesting coincidence, the distances between the stars in interstellar space, relative to their diameters, are just about the same as the distances between the atoms and molecules in interstellar space relative to their diameters. Interstellar space is as empty as a cubical building, 60 miles long, 60 miles wide, and 60 miles high, containing a single grain of sand.

Radio astronomers may be interested to know that the so-called "brightness temperature" of the Earth at television wavelengths is some hundreds of millions of degrees. This is 100 times greater than the radio brightness of the sun at comparable wavelengths, during a period of low sunspot activity.

▽ An advanced technical civilization is trying to communicate with us. But how can we possibly understand what they are saying? They are not likely to speak English or Russian. They have had a different evolutionary history. They are on a planet with perhaps an entirely different physical environment. Their thought

Decode this:

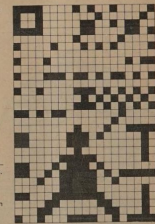
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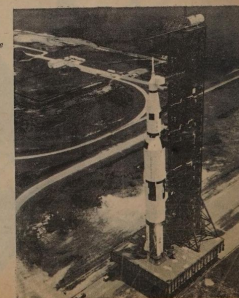
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FIGURE 30-1. A hypothetical interstellar message due to Frank Drake. The 551 zeros and ones are representations of the two varieties of signals contained in the message. The problem is to convert this sequence of 551 symbols into an intelligible message, knowing that there has been no previous communication between the transmitting and receiving civilizations.

into this:



Now decode this for physiological, astronomical, chemical, mathematical, social, historical, and linguistic information.





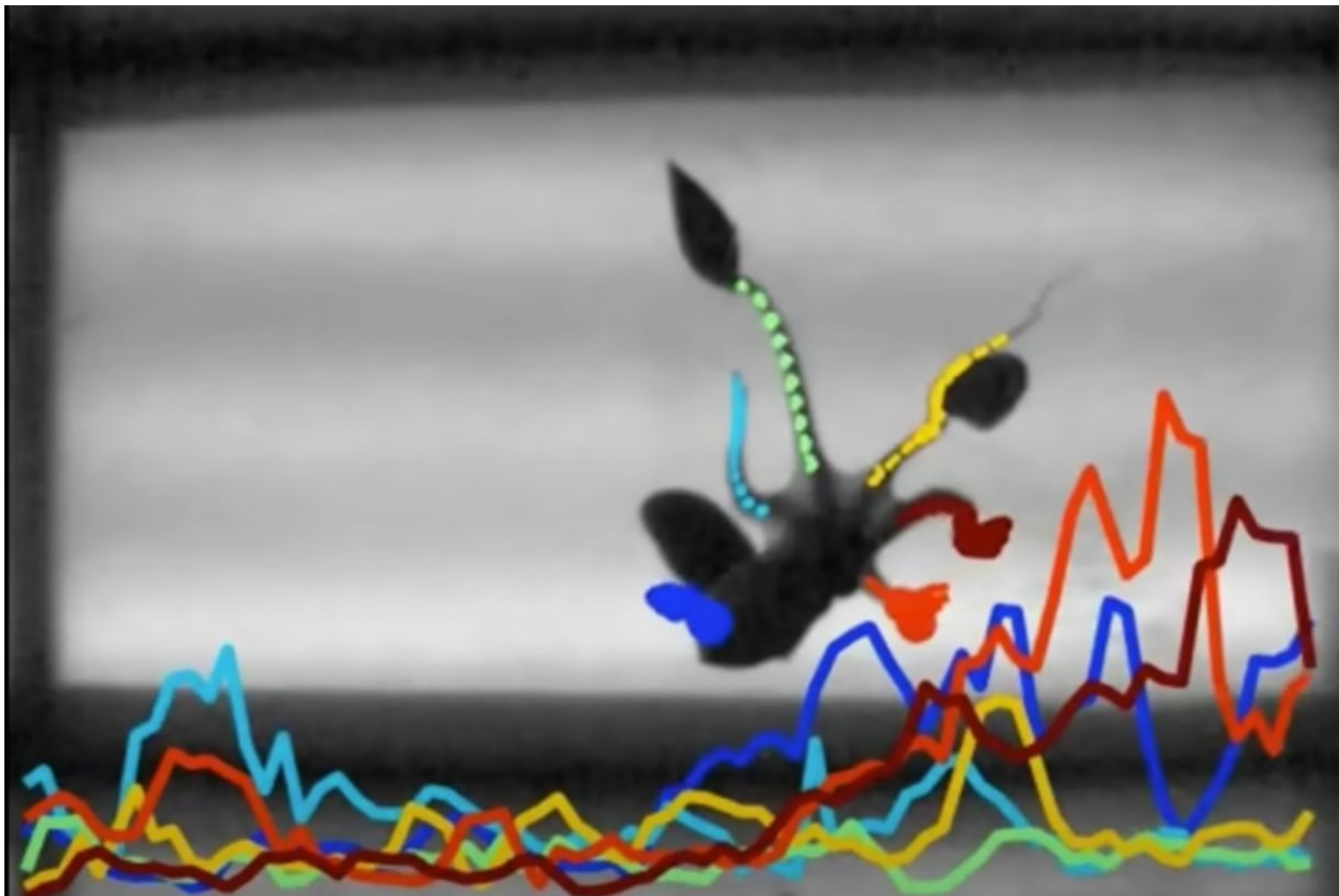
Solar Do-Nothing Machine

Charles & Ray Eames

1957

Comissioned by
Aluminun Company of
America for the
Forecast Program.
Meant to highlight the
versatility of the
material. Here, is a
playful sculpture using
the material powered
by the sun.

<https://www.eamesoffice.com/the-work/solar-do-nothing-machine/>



Researchers Model How Octopus Arms Make Decisions

Dominic Sivitilli & David Gire, University of Washington

2019

Scientists created a program to track octopus arm movements to infer that each tentacle are making decisions independently but can also be controlled by their nervous system when they are synchronized in movement.

<https://news.aqu.org/press-release/researchers-model-how-octopus-arms-make-decisions/>



Space Sonifications

NASA

2021–2024

To experience space imagery in a different way, NASA has sonified their photos. Data is transmitted back to NASA and this data doesn't have to be in the form of imagery, but it can be used for sound. This process is called data sonification, by taking data points and mapping them to sound parameters.

<https://science.nasa.gov/mission/hubble/multimedia/sonifications/>



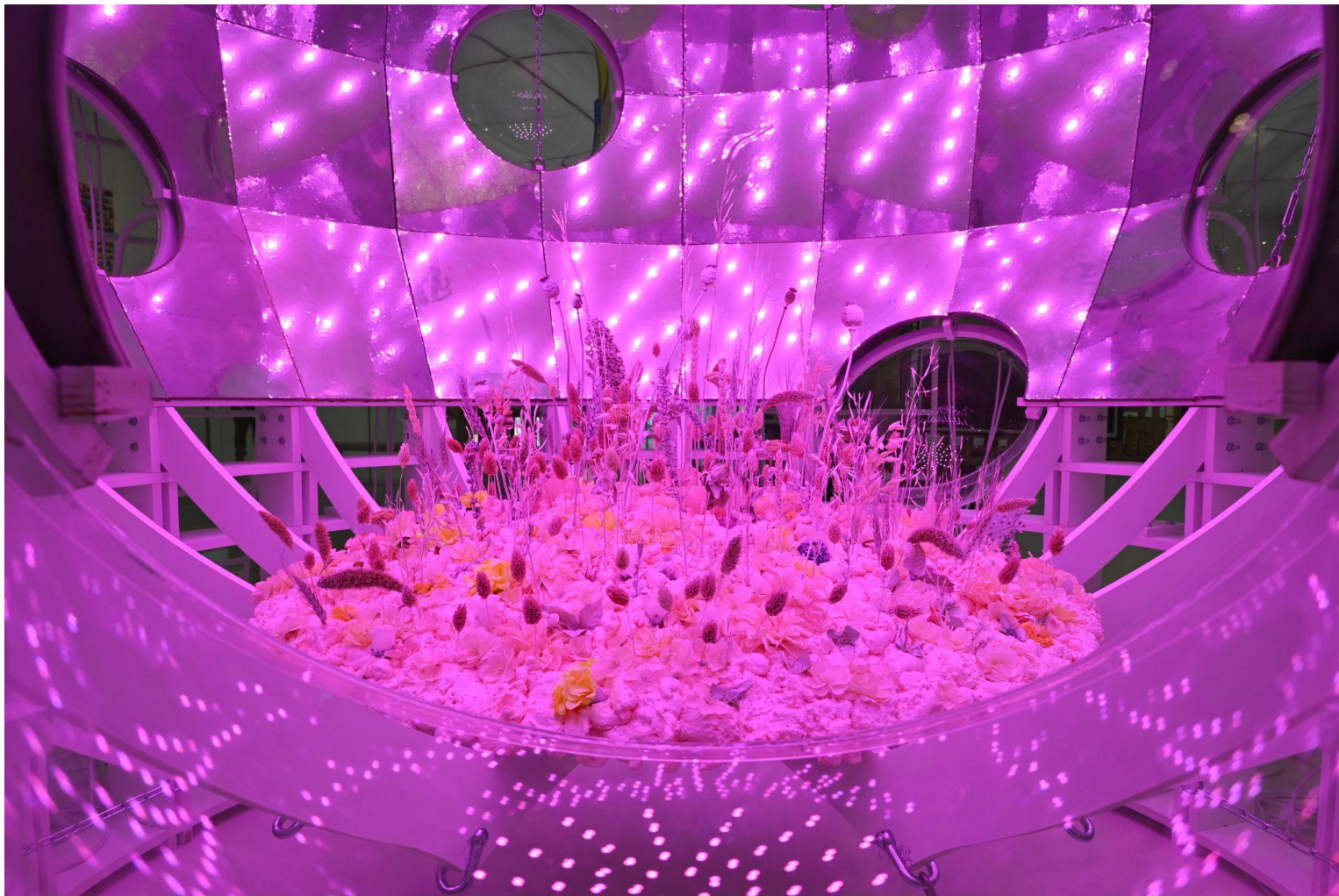
Chthuluscene

**Patricio Dávila,
Immony Men, David
Czarnoski, Symon
Oliver, Bohdan
Anderson, Maggie
Chan**

2015

An interactive visualization where participants partner up through their mobile devices. When they do, entities start popping up in the projected world.

<https://publicvisualizationstudio.co/projects/chthuluscene>



Fellaria's Time Capsule

Mireia Luzárrag &
Alejandro Muño

2024

Artists posed the question “What if plants could time-travel?”. In this piece, plants are inside a spaceship and viewers can peer through circular windows.

<https://mudac.ch/en/projects/fellarias-time-capsule/>

Events



Fleuron

An online conference dedicated to design, art, botany and technology.

<https://fleuron.tf/>



Biofabricate

A conference in NYC on sustainable biotechnology with a focus on materials.

<https://www.biofabricate.co/>

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