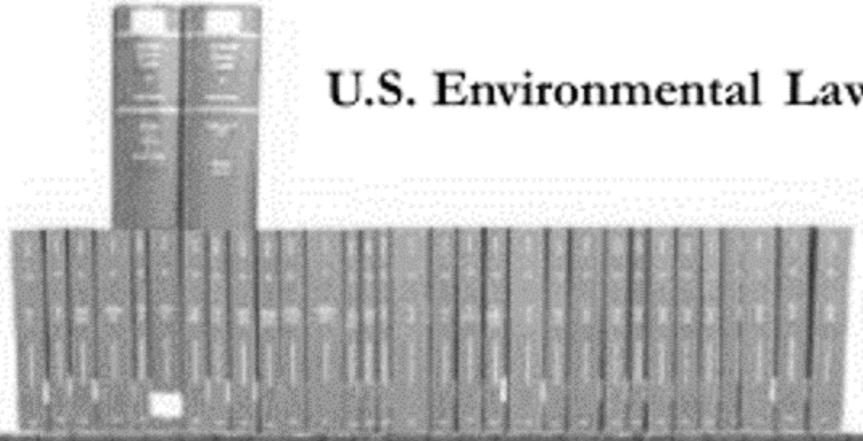

Fighting Entropy
in Environmental
Information
Regulation

Environmental Protection System

$$\mathrm{H}(X) = -\sum_{i=1}^{n} p(x_i) \log_b p(x_i)$$

Too Entropic!

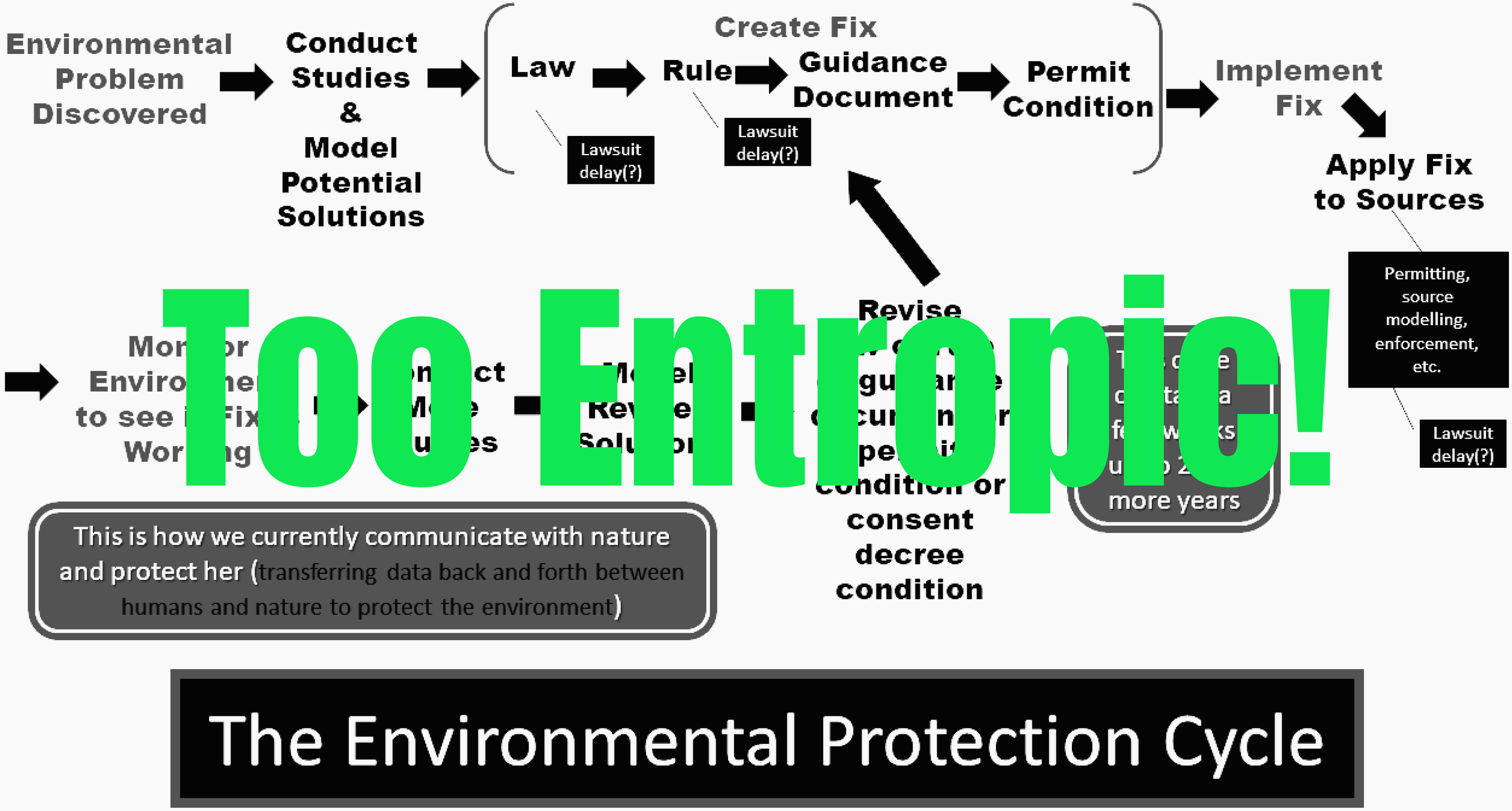
$$= -\sum_{i=1}^{2} \frac{1}{2} \cdot (-1) = 1$$



U.S. Environmental Laws are the Most Complicated Laws in Human History

The federal environmental statutes that Congress has addressed to EPA run to more than 2,700 pages in the two large, maroon-colored United States code volumes. The legally binding regulations issued by EPA to implement these statutes fill the 31 ocre-colored volumes of the Code of Federal Regulations. The guidance and other documents issued by EPA to explain or interpret its regulations fill around one million pages and are represented by the 1,250 grey-colored loose-leaf volumes. This does not include the millions of pages of State and local statutes, rules, and guidance that implement the millions of pages of Federal statutes, rules, and guidance.

Too Entropic!



The Environmental Protection Cycle

NATUR
E

0 or 1

OBSERVATION

1

EnviroAI

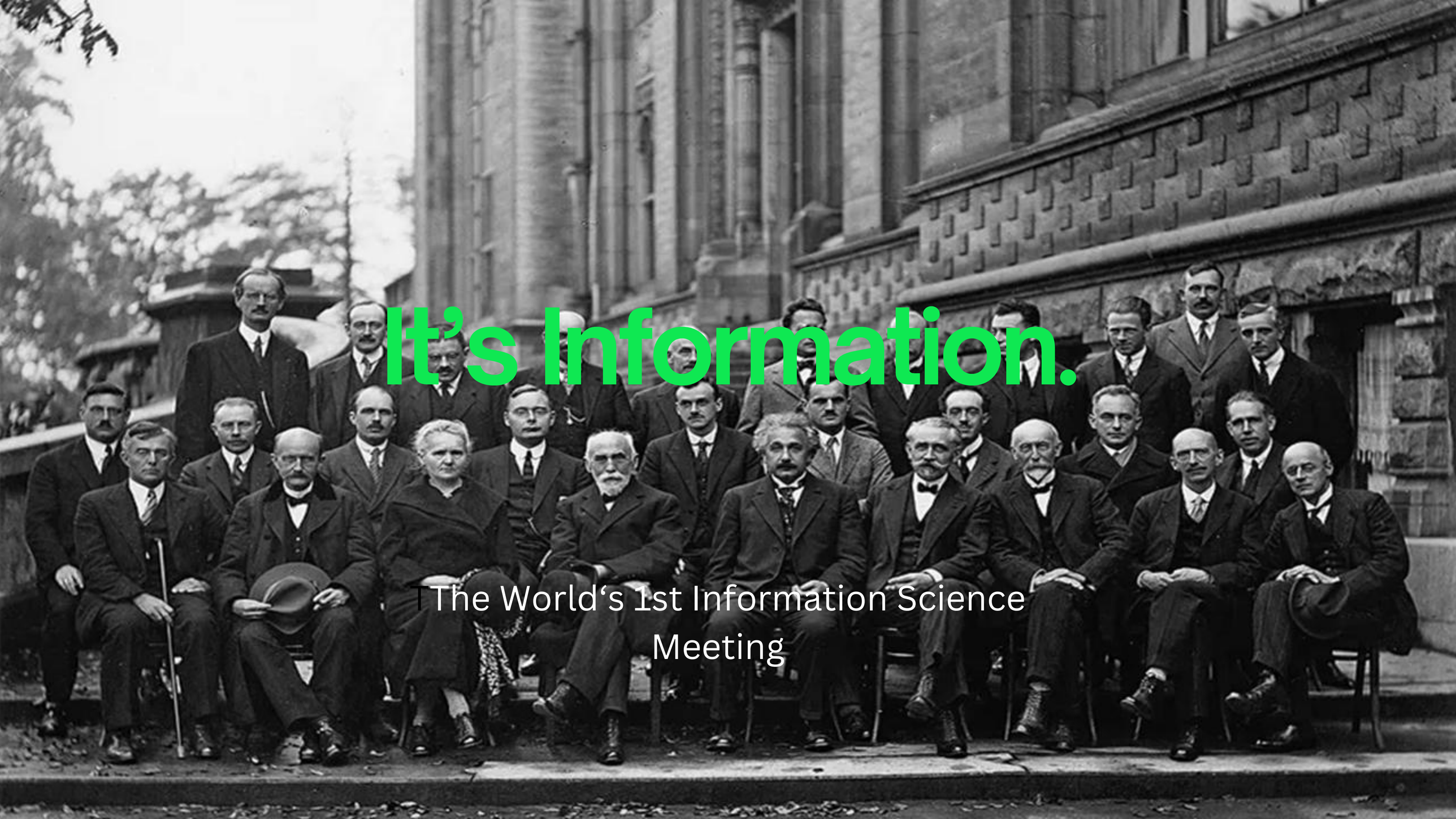
Protect Nature as Information with Information Tech

Less Entropy.

Simpler

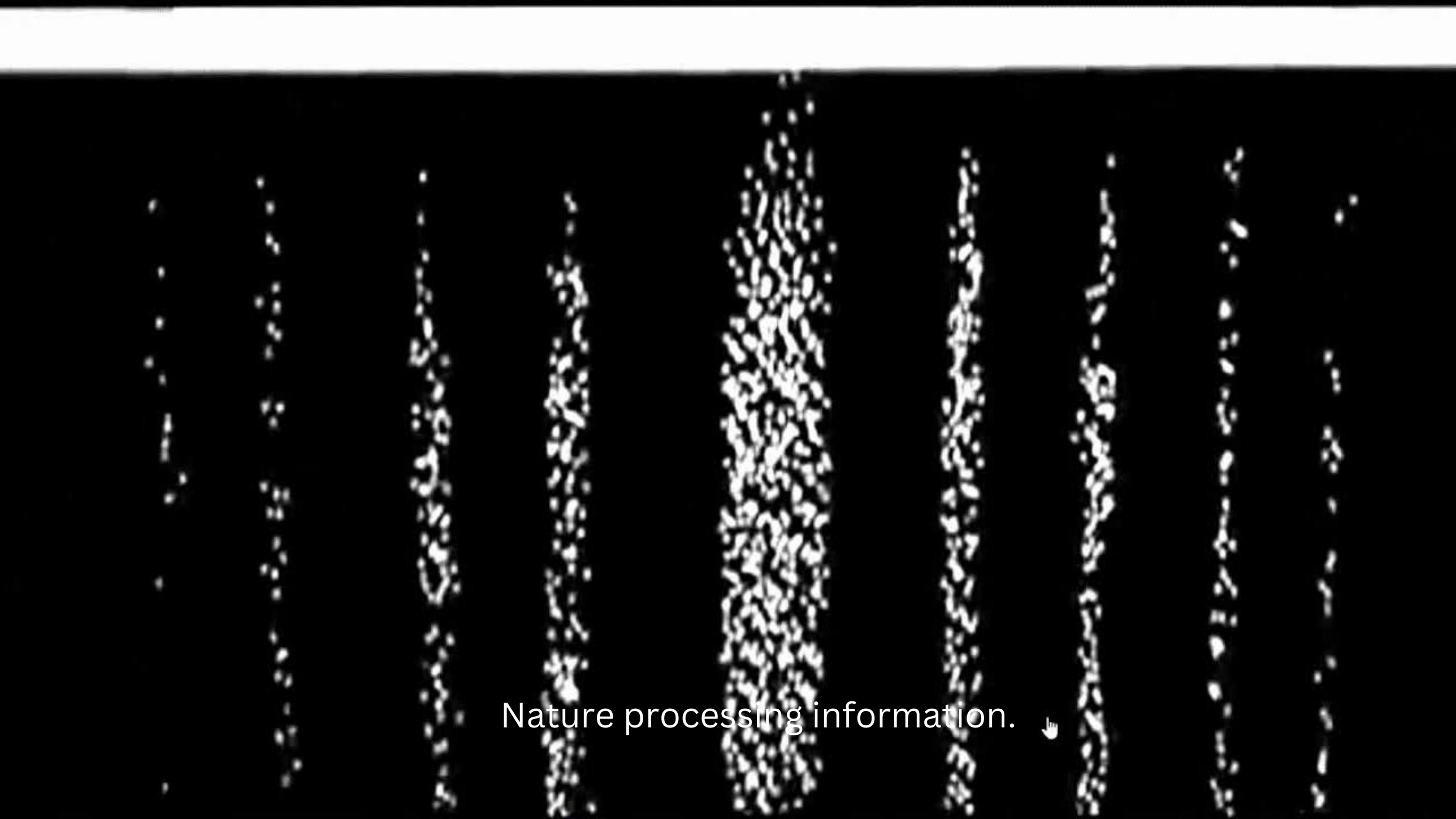
Harnessing Technology for a Better Planet.

www.enviro.ai



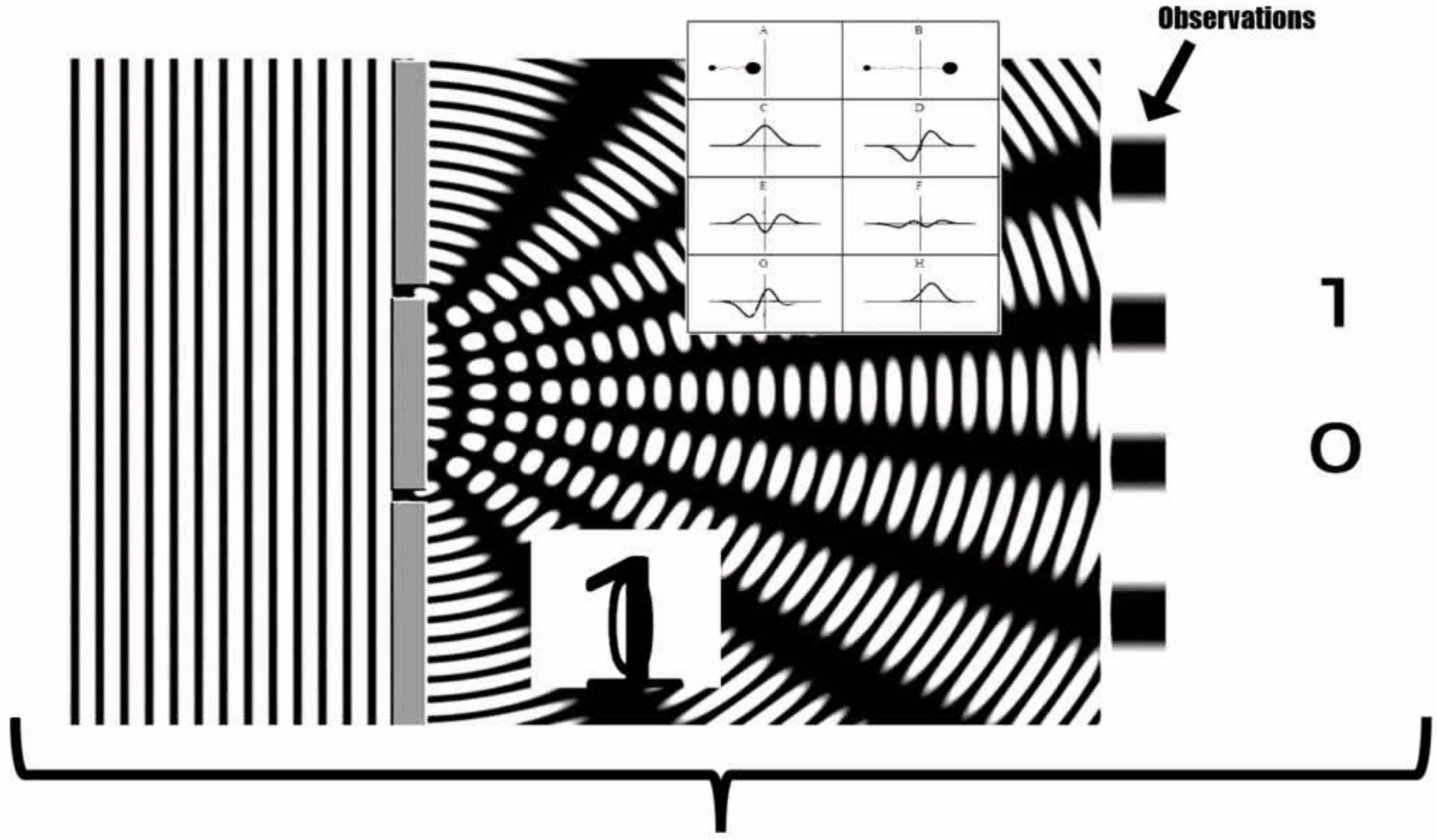
It’s Information.

The World‘s 1st Information Science Meeting

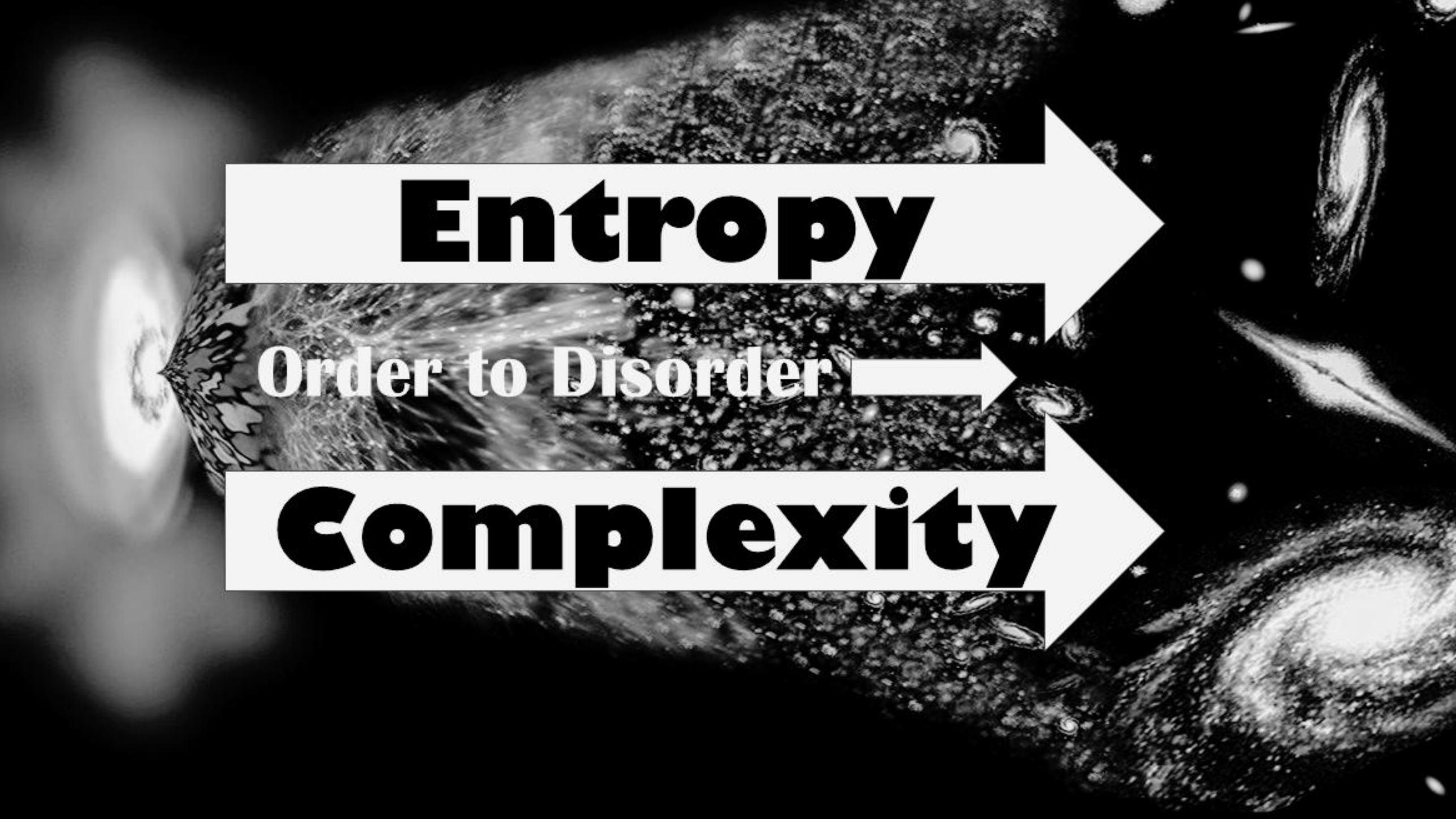

Nature processing information.

“It from bit.”

- John Wheeler

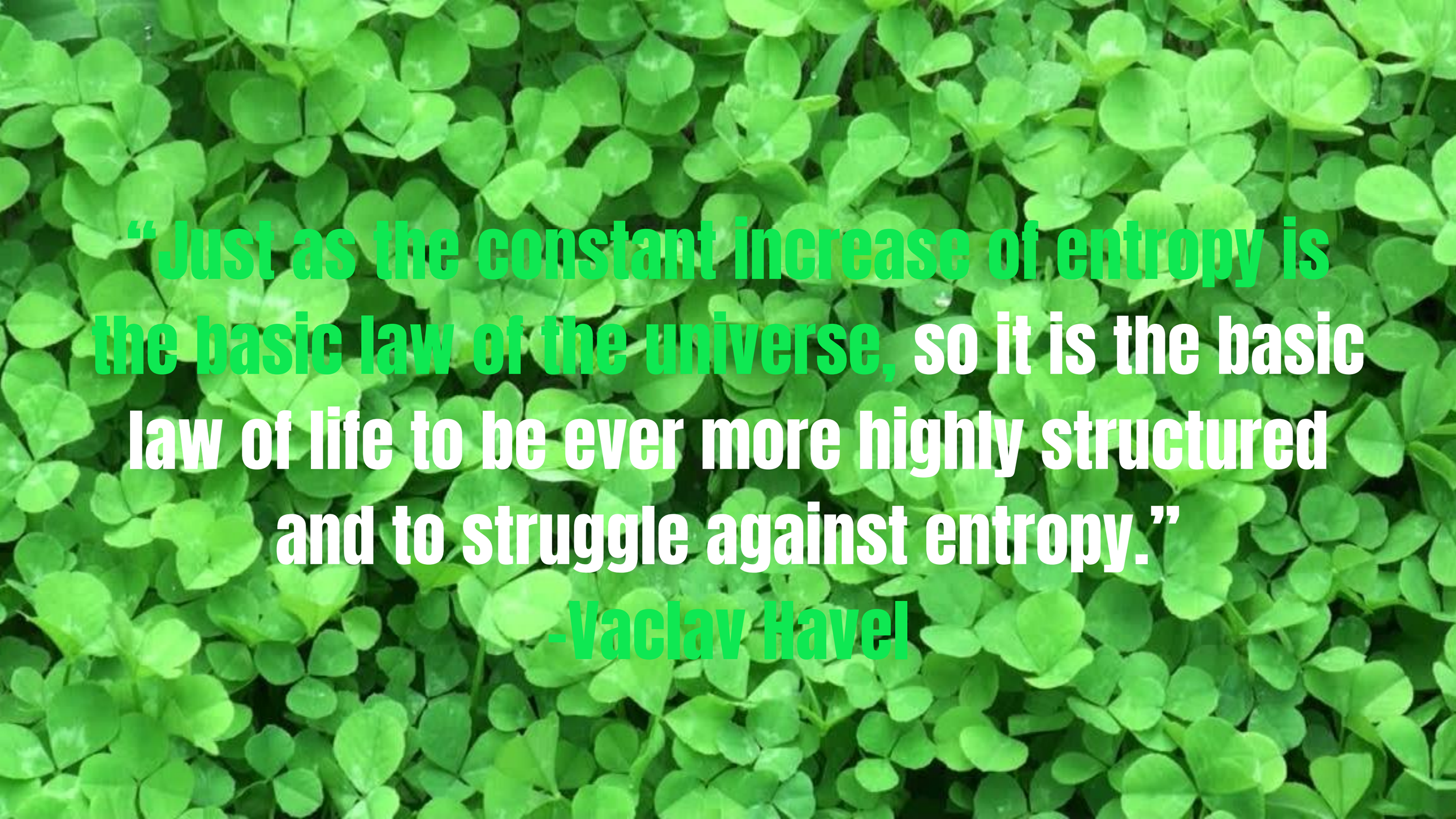


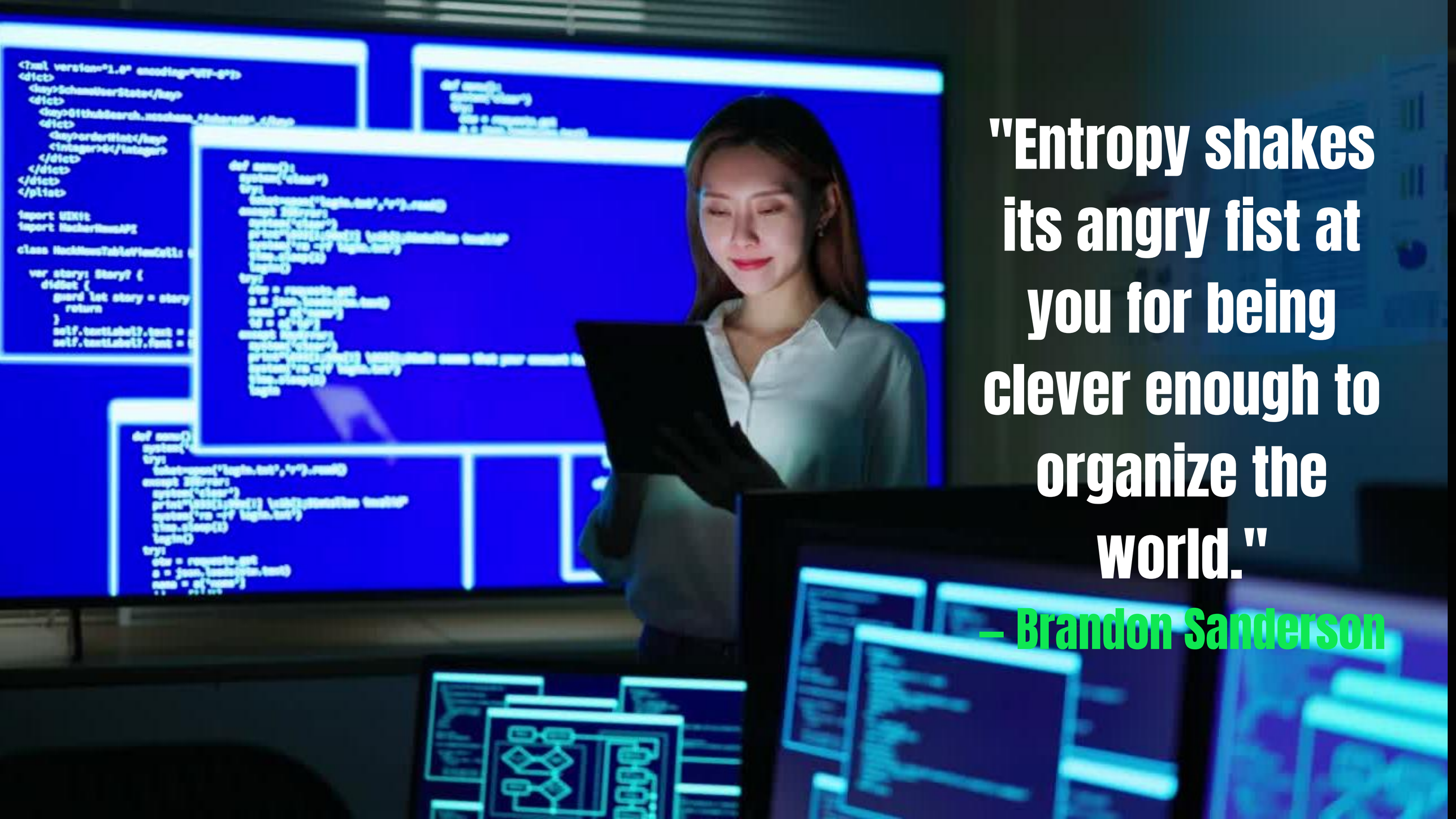
“Nature Information Processing”


Entropy
Order to Disorder
Complexity


Life & Intelligence
Disorder to Order
Simplicity

"IT SOMETIMES SEEMS AS IF CURBING ENTROPY IS OUR QUIXOTIC PURPOSE IN THIS UNIVERSE."— JAMES GLEICK

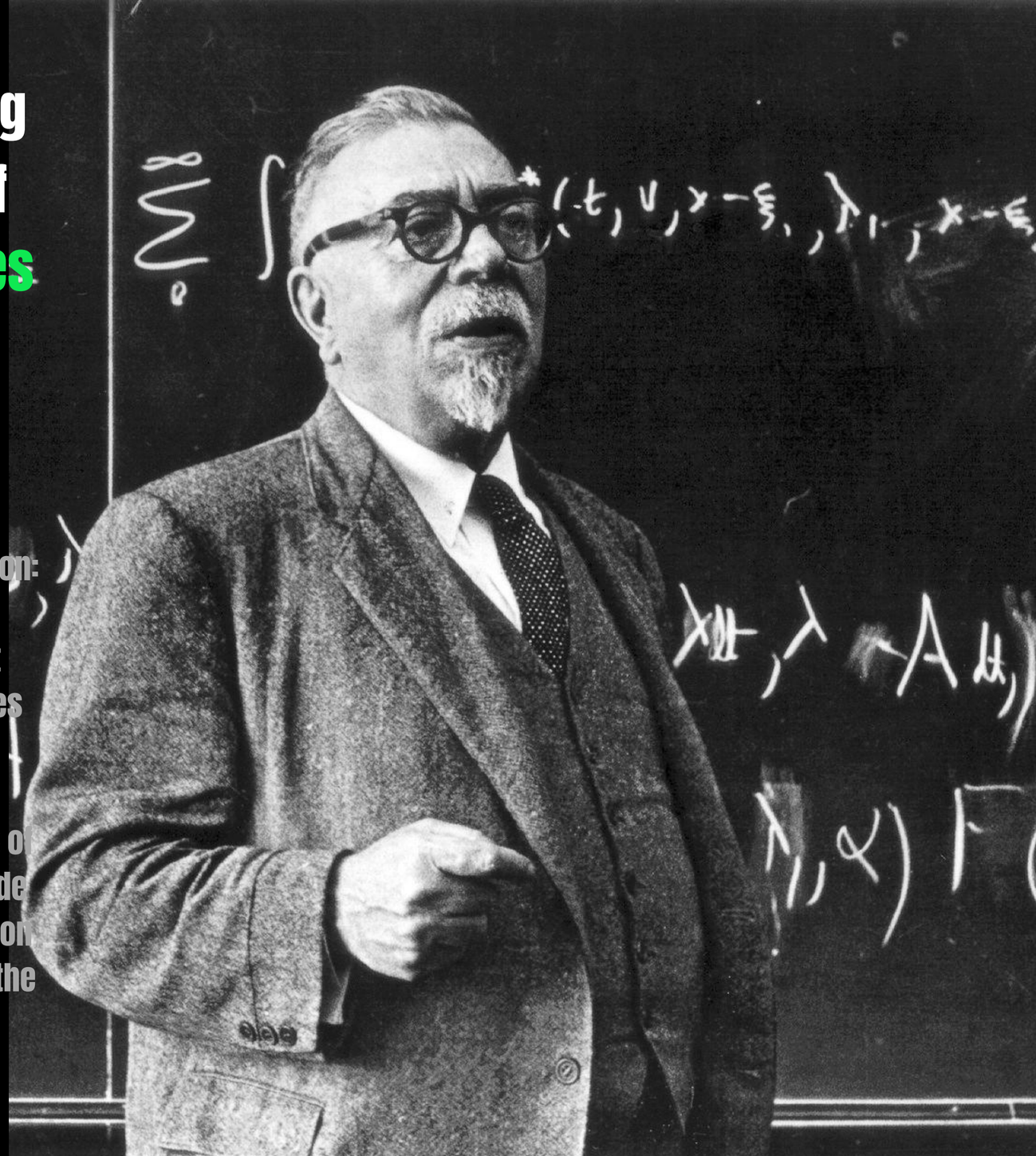

“Just as the constant increase of entropy is the basic law of the universe, so it is the basic law of life to be ever more highly structured and to struggle against entropy.”
-Vaclav Havel

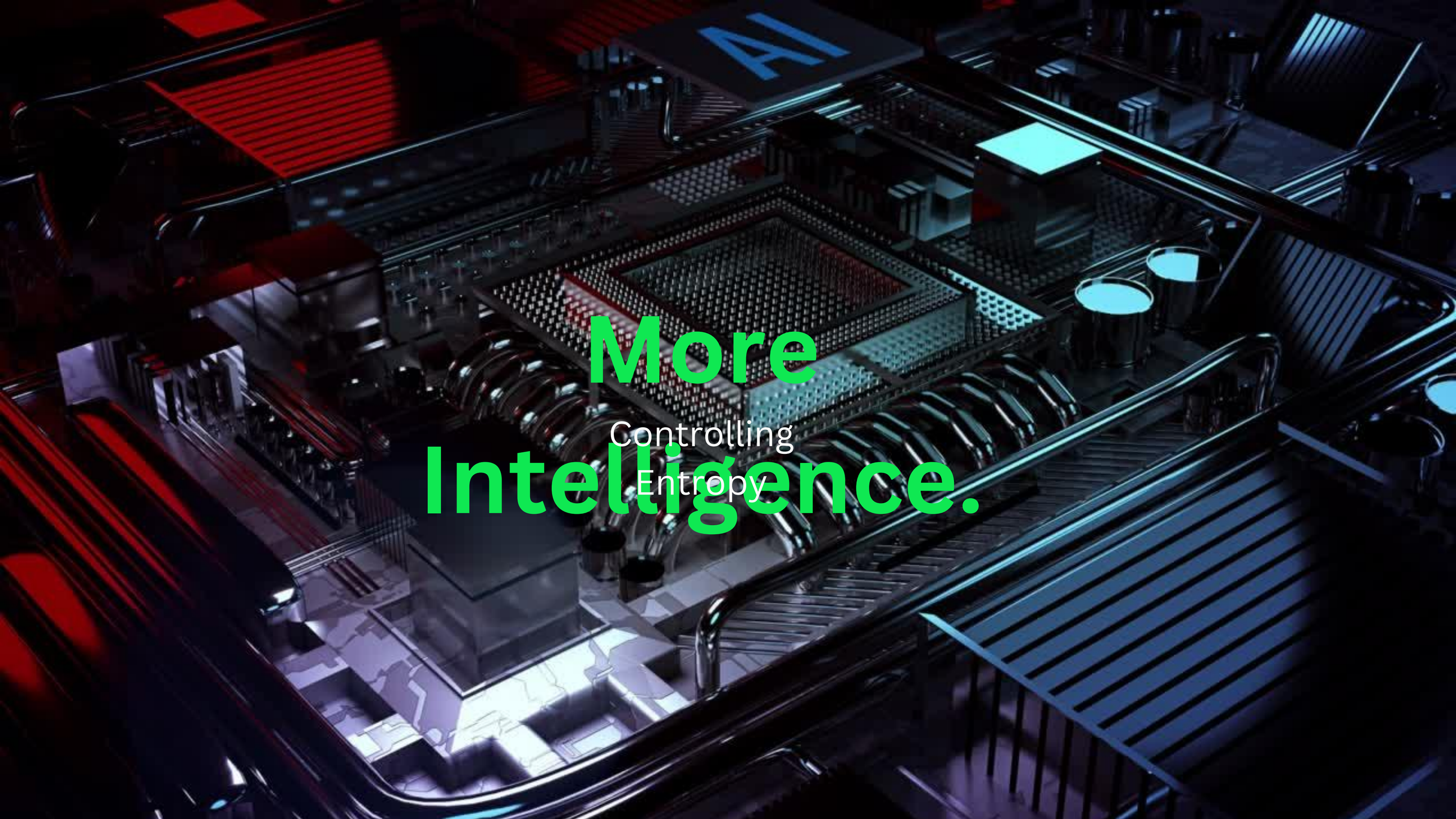

"Entropy shakes its angry fist at you for being clever enough to organize the world."
– Brandon Sanderson

“It is my thesis that the physical functioning of the living individual and the operation of some of the newer communication machines are precisely parallel in their analogous attempts to control entropy through feedback.

Both of them have sensory receptors as one stage in their cycle of operation: that is, in both of them there exists a special apparatus for collecting information from the outer world at low energy levels, and for making it available in the operation of the individual or of the machine. In both cases these external messages are not taken neat, but through the internal transforming powers of the apparatus, whether it be alive or dead. The information is then turned into a new form available for the further stages of performance. In both the animal and the machine this performance is made to be effective on the outer world. In both of them, their performed action on the outer world, and not merely their intended aetion, is reported back to the central regulatory apparatus.”

-Norbert Weiner




AI
More
Controlling
Entropy
Intelligence.

More Life.

Controlling Entropy

Protecting “its“ with bits.

Controlling Entropy

EnviroAI

NATURE

0 or 1

OBSERVATION

1

“The Future of Environmental Protection”