

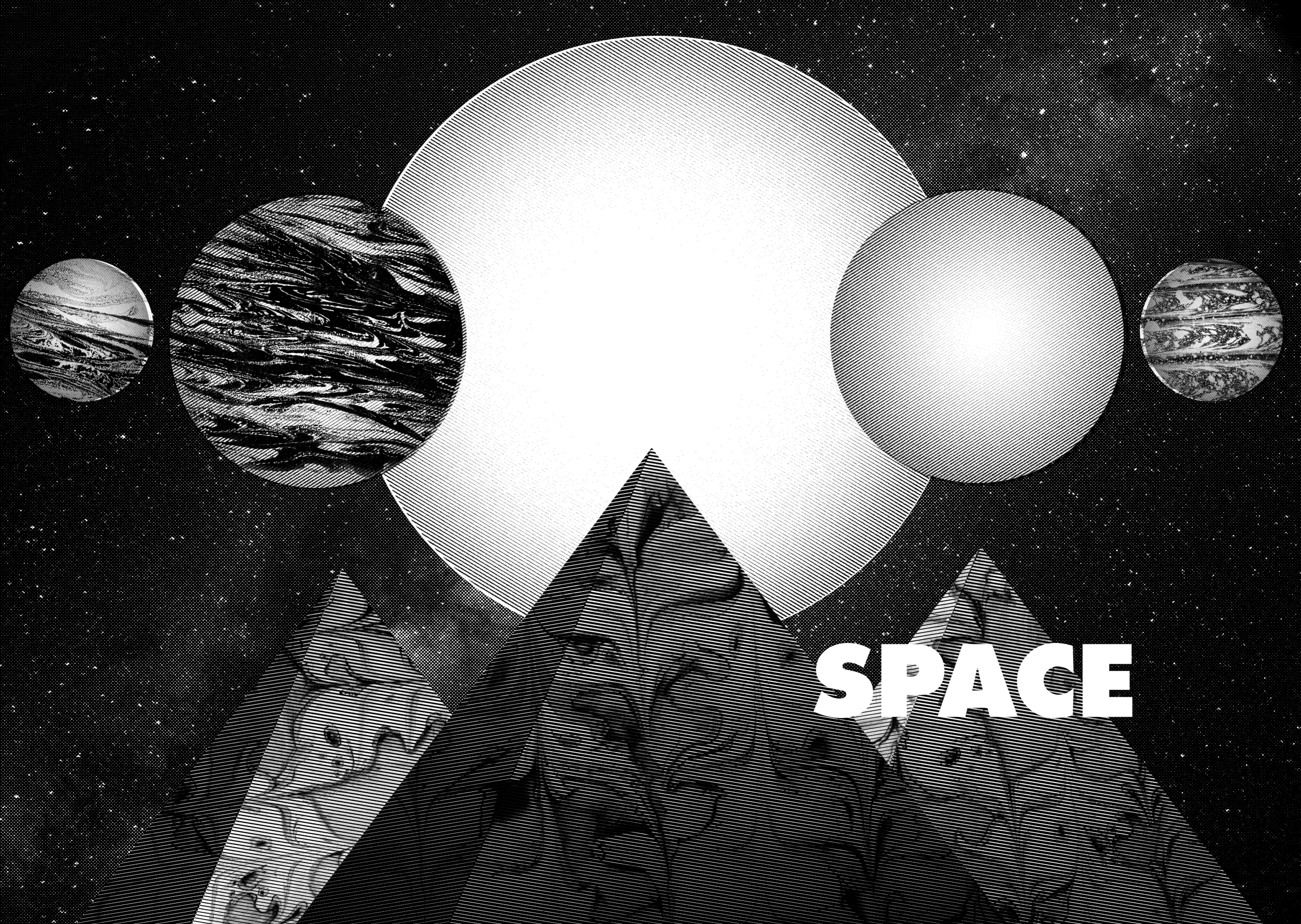
Vesa Vuorio

COSMOS

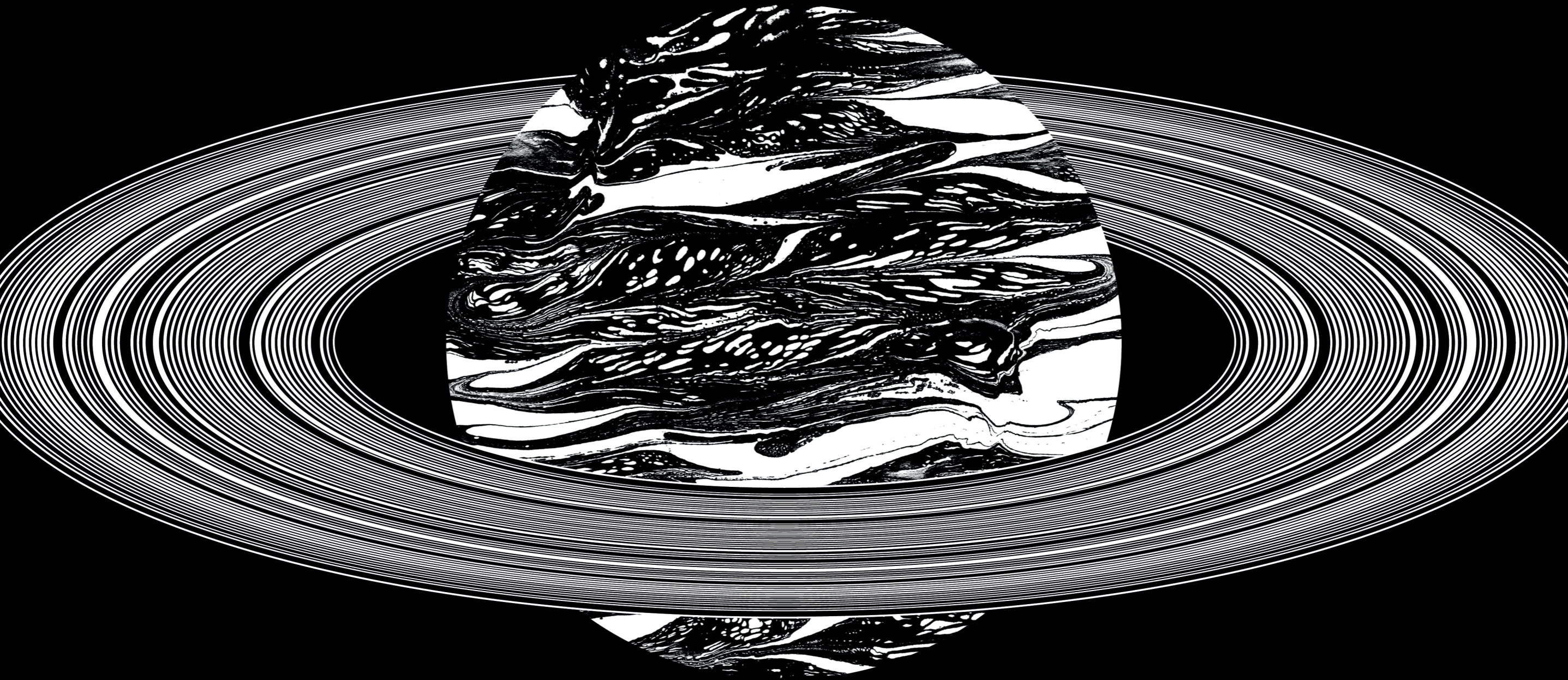


**SPACE
TIME
LIFE
MIND
FORCES
OF
NATURE
SCIENCE**





SPACE





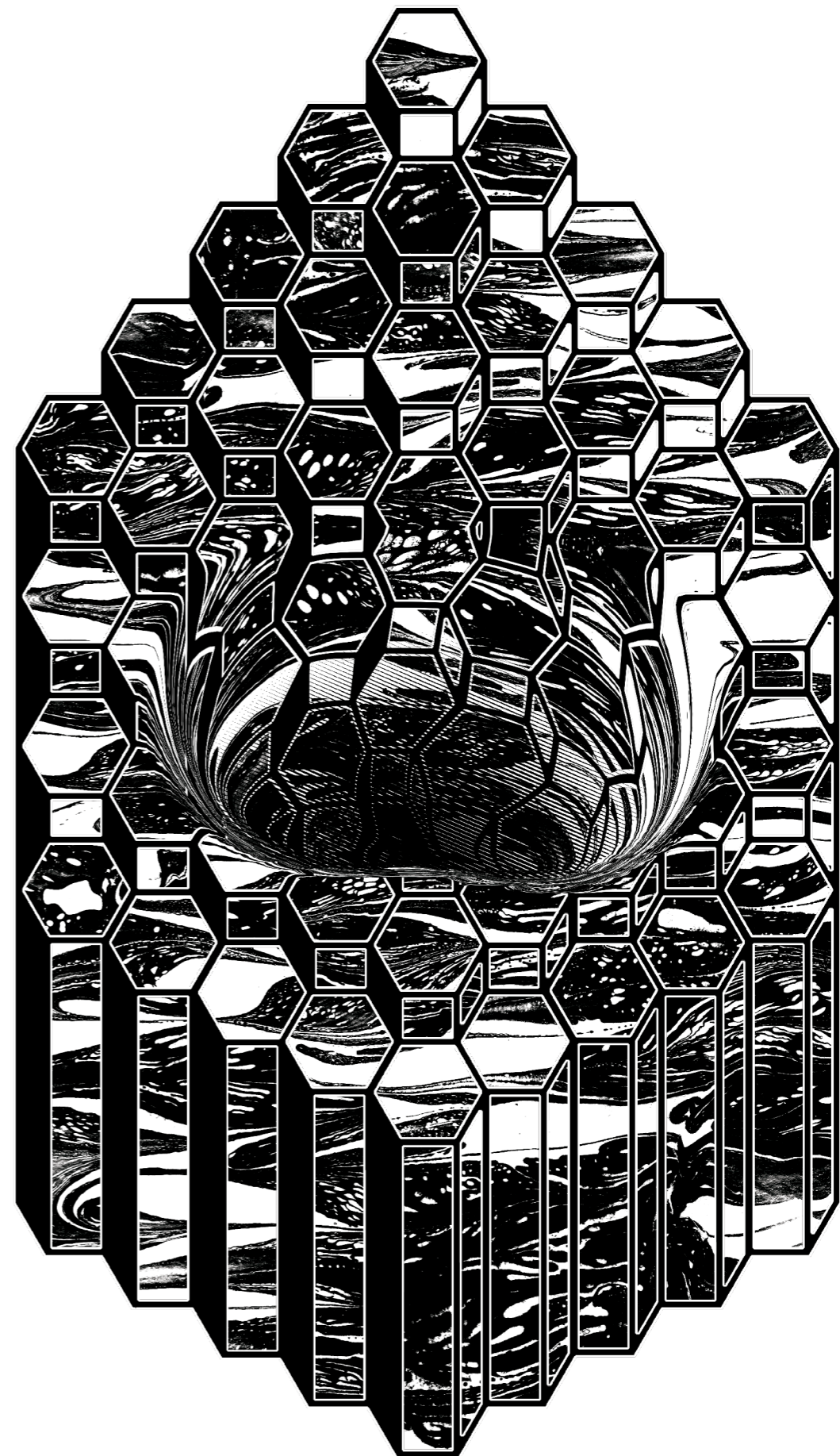
I never said it. Honest. Oh, I said there are maybe hundred billion galaxies and ten billion trillion stars. It's hard to talk about the Cosmos without using big numbers. I said 'billion' many times on the Cosmos television series, which was seen by a great many people. But I never said 'billions and billions.' For one thing, it's imprecise. How many billions are 'billions and billions'? A few billion? Twenty billion? A hundred billion? 'Billions and billions' is pretty vague... For a while, out of childish pique, I wouldn't utter the phrase, even when asked to. But I've gotten over that. So, for the record, here it goes: 'Billions and billions.'

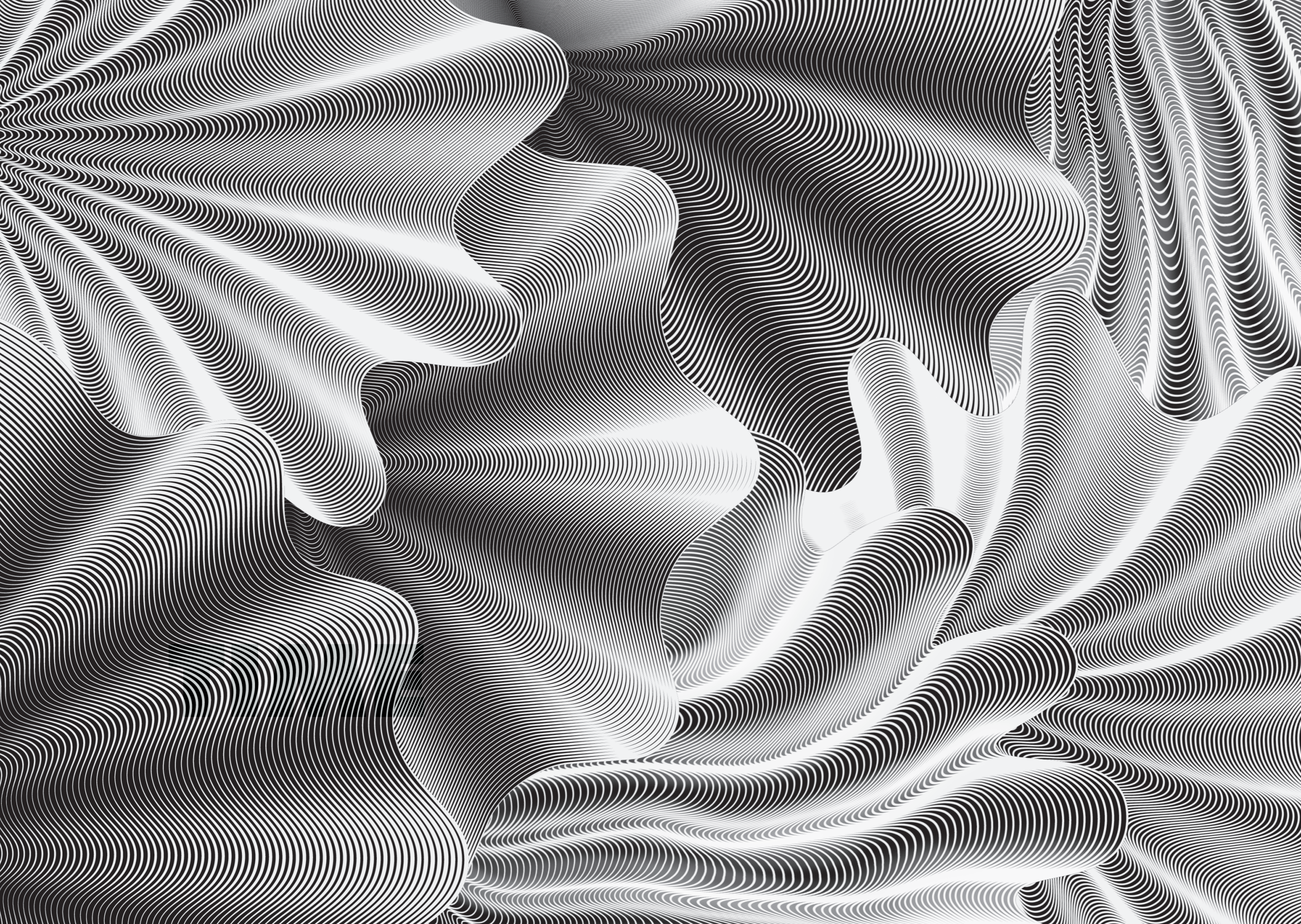
Carl Sagan



I have long thought that anyone who does not regularly – or ever – gaze up and see the wonder and glory of a dark night sky filled with countless stars loses a sense of their fundamental connectedness to the universe.

Brian Greene



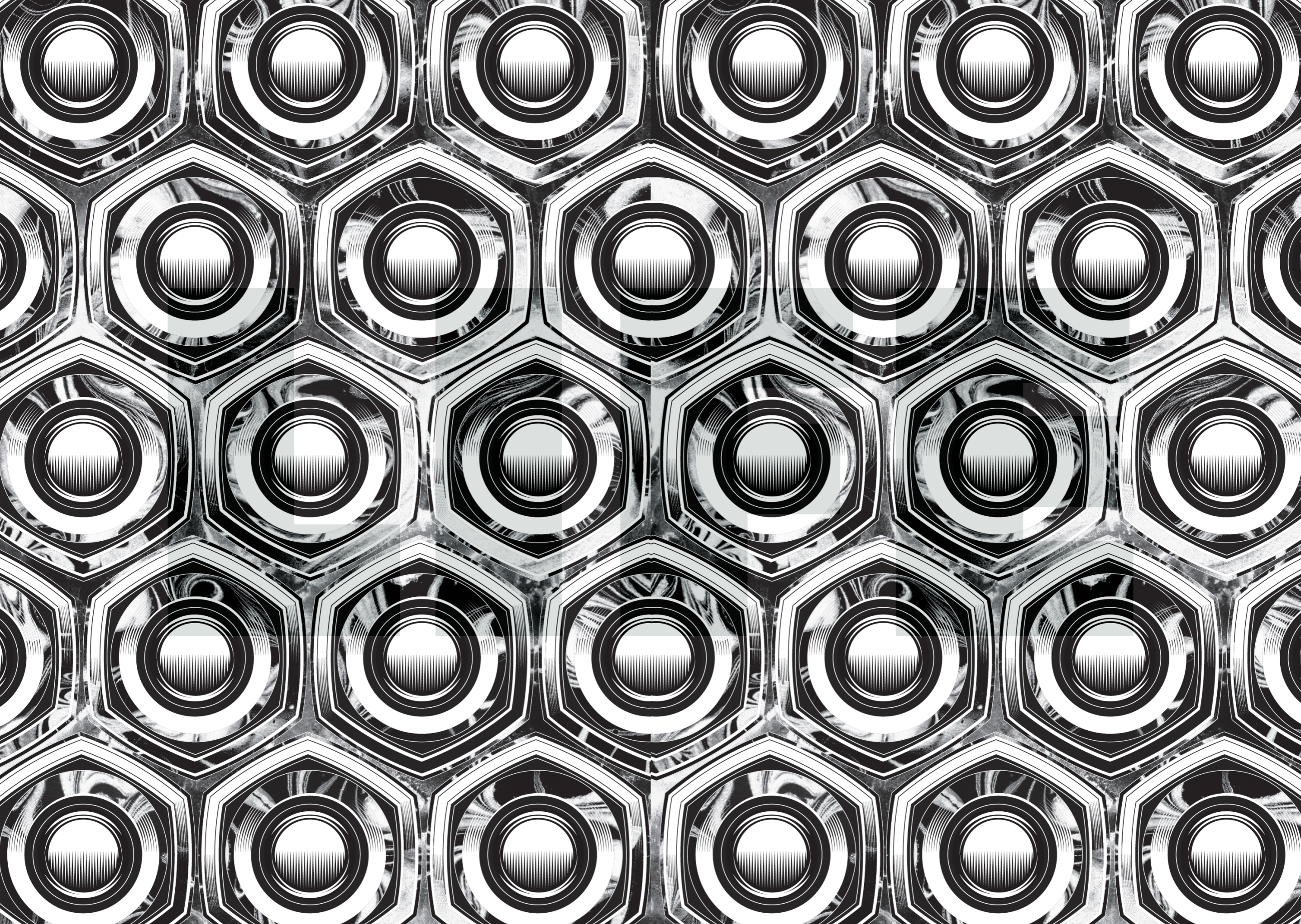


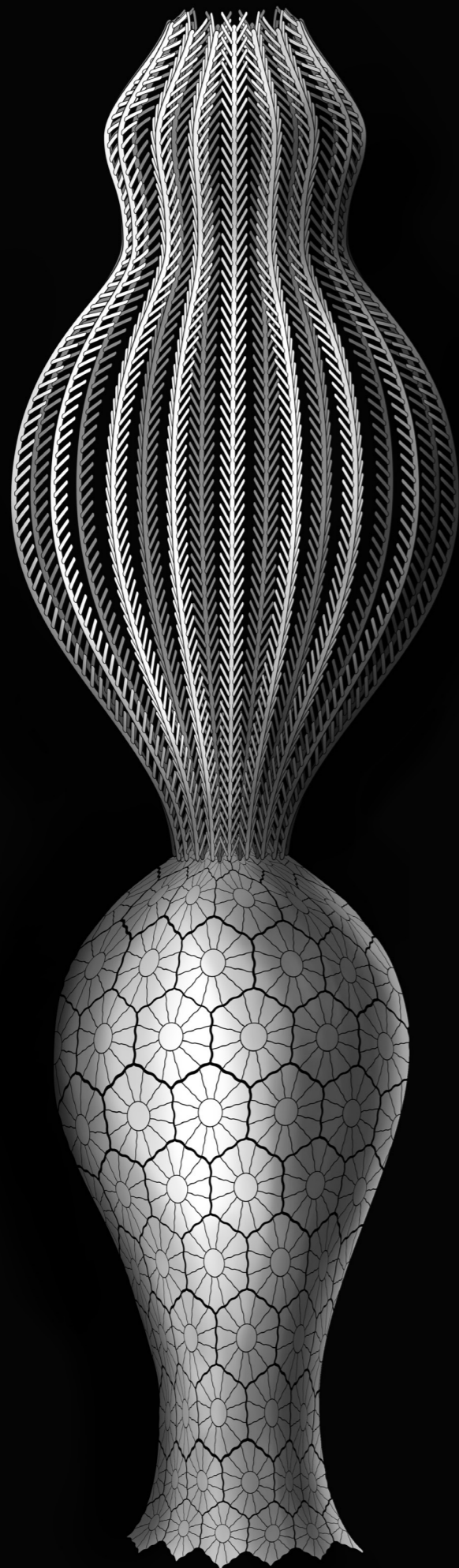
The asymmetry of time, the arrow that points from past to future, plays an unmistakable role in our everyday lives: it accounts for why we cannot turn an omelet into an egg, why ice cubes never spontaneously unmelt in a glass of water, and why we remember the past but not the future. And the origin of the asymmetry we experience can be traced all the way back to the orderliness of the universe near the big bang. Every time you break an egg, you are doing observational cosmology.

Sean Carroll









Well, evolution is a theory. It is also a fact. And facts and theories are different things, not rungs in a hierarchy of increasing certainty. Facts are the world's data. Theories are structures of ideas that explain and interpret facts. Facts do not go away while scientists debate rival theories for explaining them. Einstein's theory of gravitation replaced Newton's, but apples did not suspend themselves in mid-air pending the outcome. And human beings evolved from apelike ancestors whether they did so by Darwin's proposed mechanism or by some other, yet to be discovered.

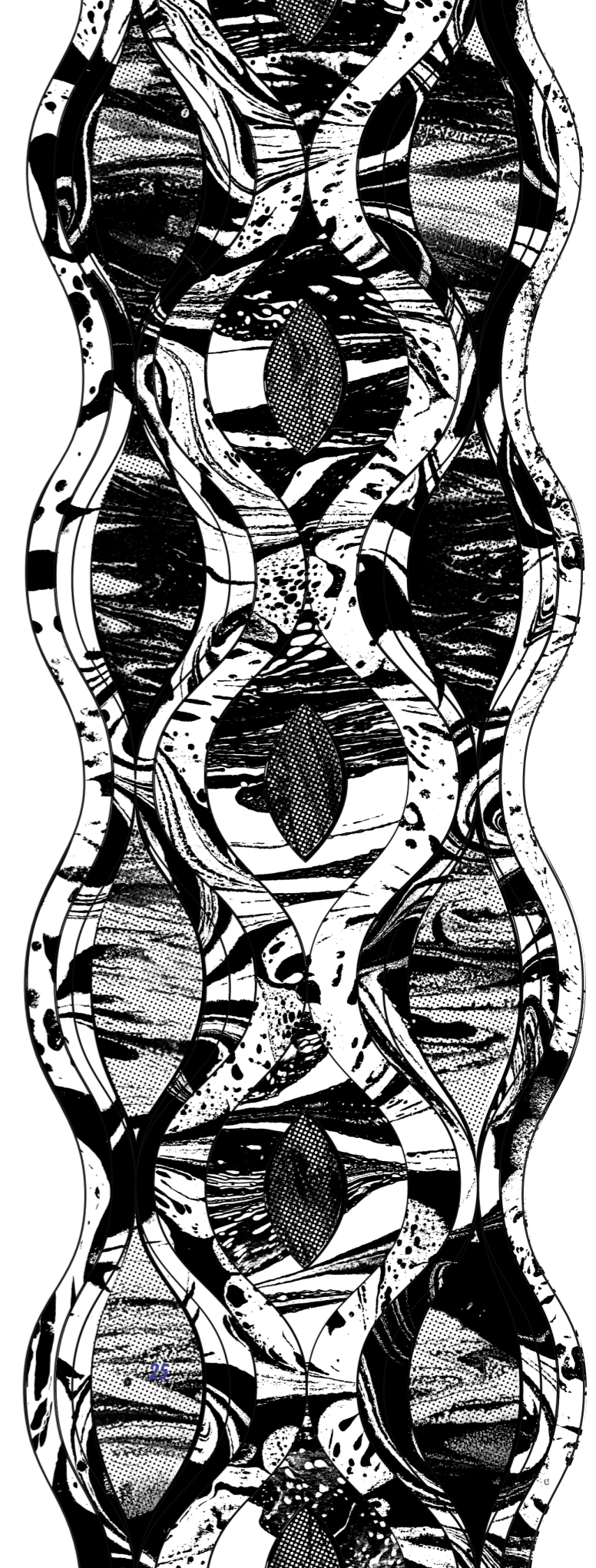
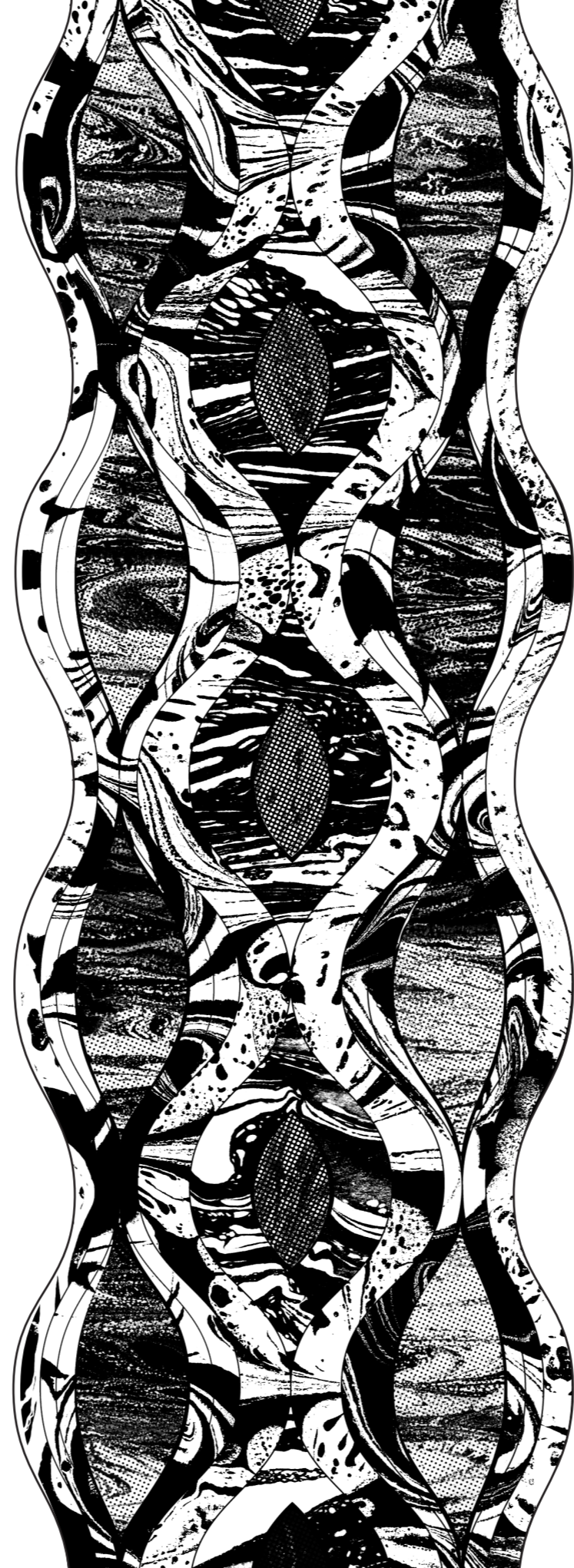
Stephen Jay Gould

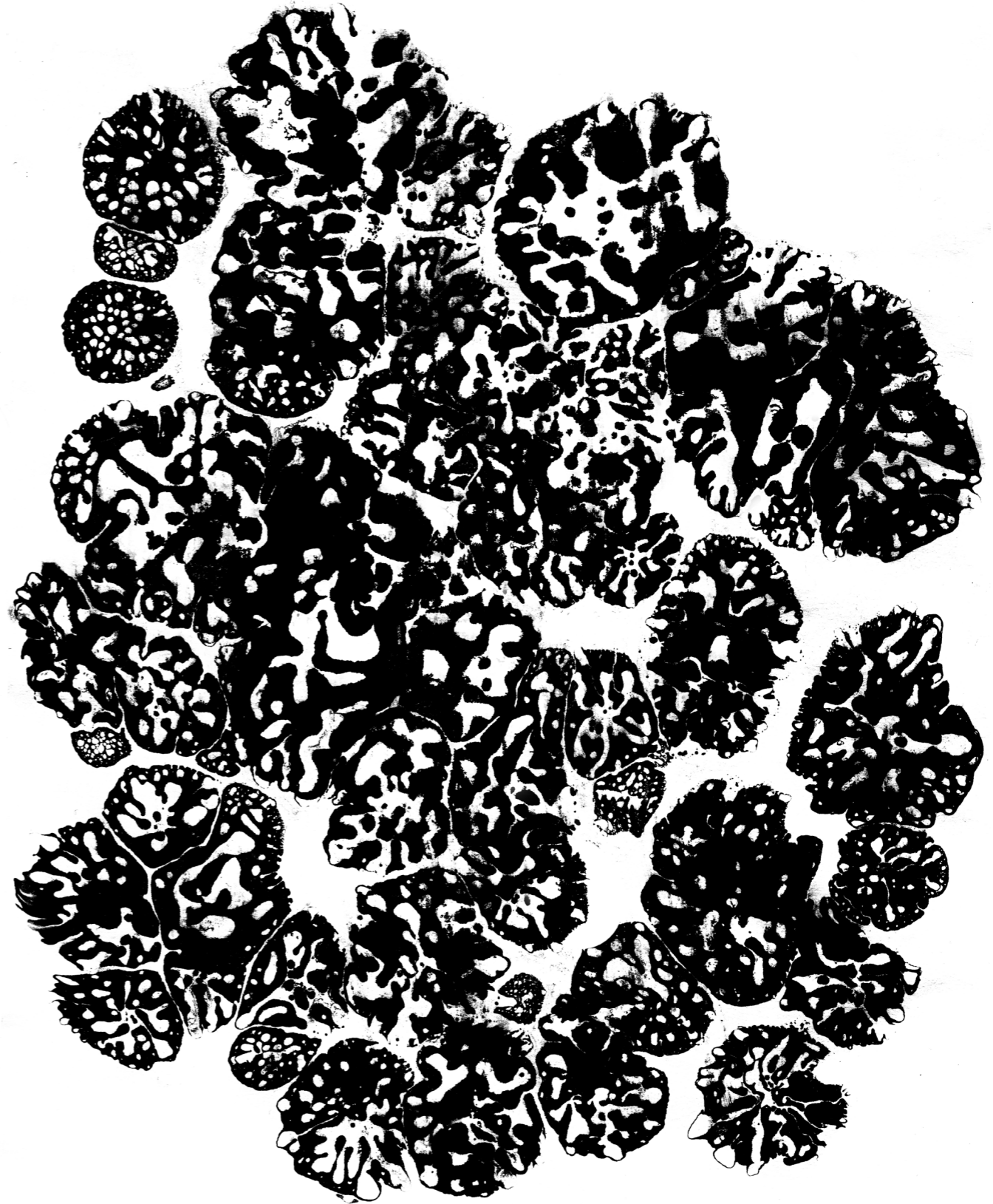


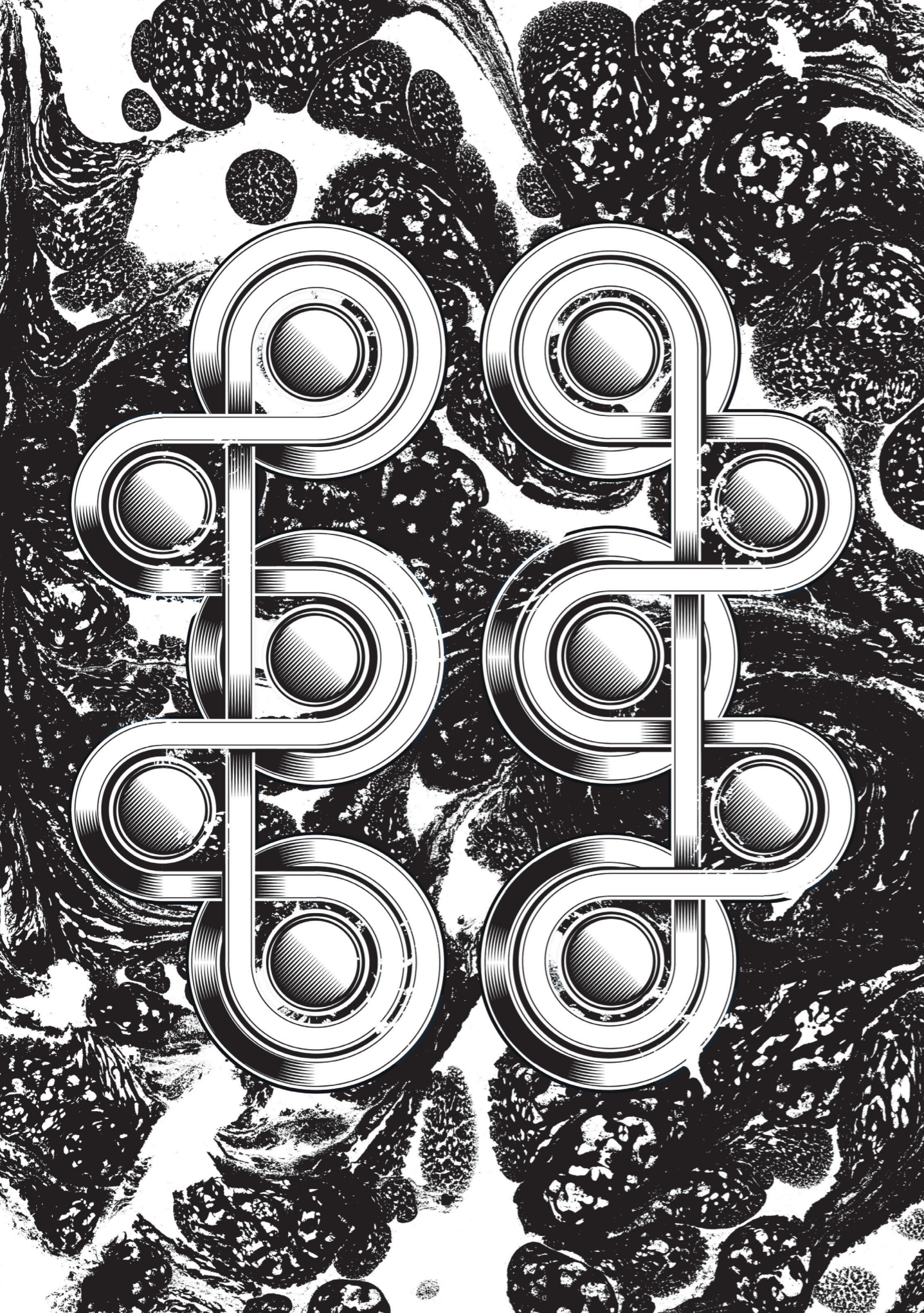


Our world is not an optimal place, fine tuned by omnipotent forces of selection. It is a quirky mass of imperfections, working well enough; a jury-rigged set of adaptations built of curious parts made available by past histories in different contexts.

Stephen Jay Gould



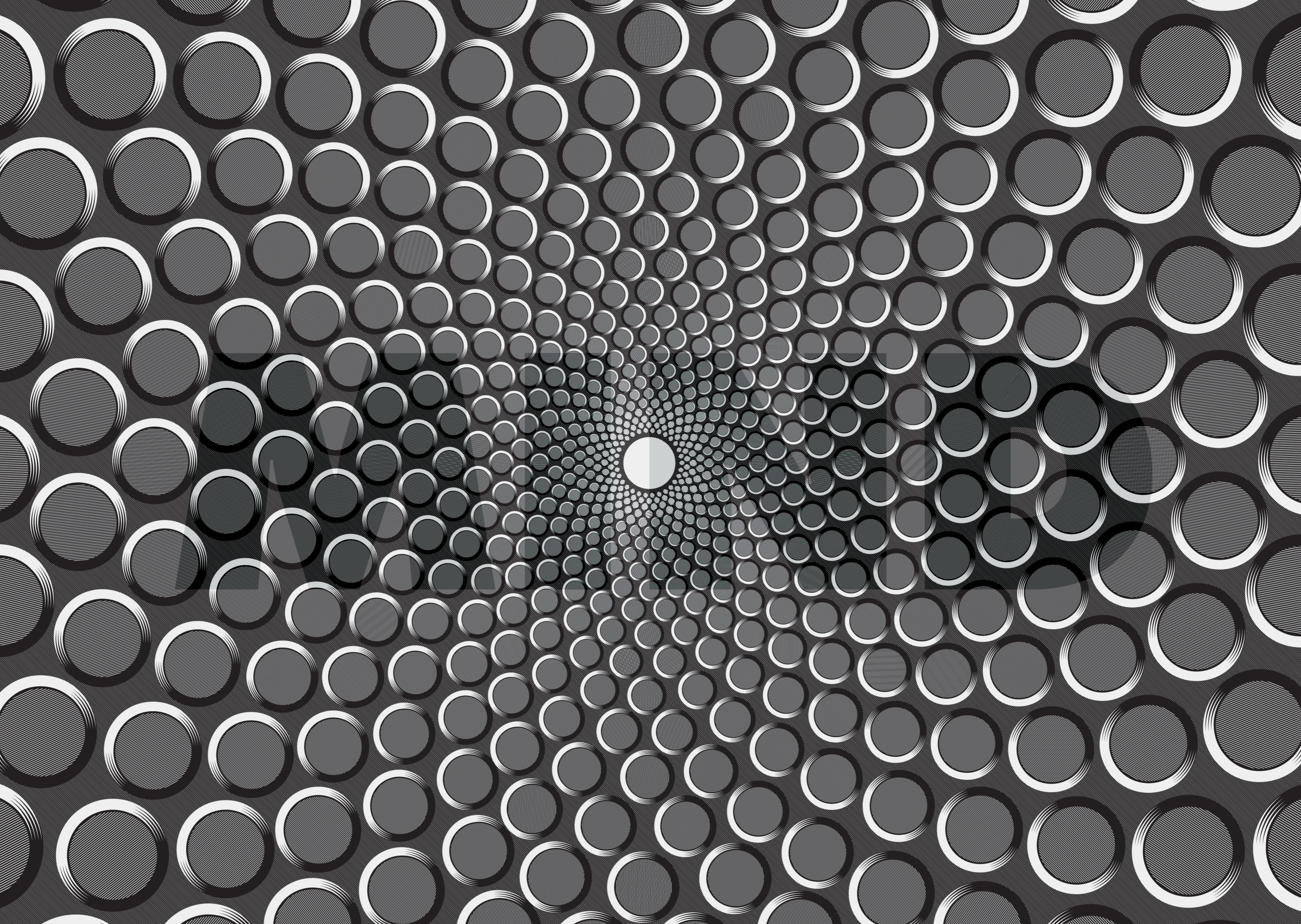




Most species do their own evolving, making it up as they go along, which is the way Nature intended. And this is all very natural and organic and in tune with mysterious cycles of the cosmos, which believes that there's nothing like millions of years of really frustrating trial and error to give a species moral fiber and, in some cases, backbone.

Richard Adams





*Outside is pure energy and colorless substance.
All of the rest happens through the mechanism of our
senses. Our eyes see just a small fraction of the light in the
world. It is a trick to make a colored world, which does not
exist outside of human beings.*

Albert Hoffman

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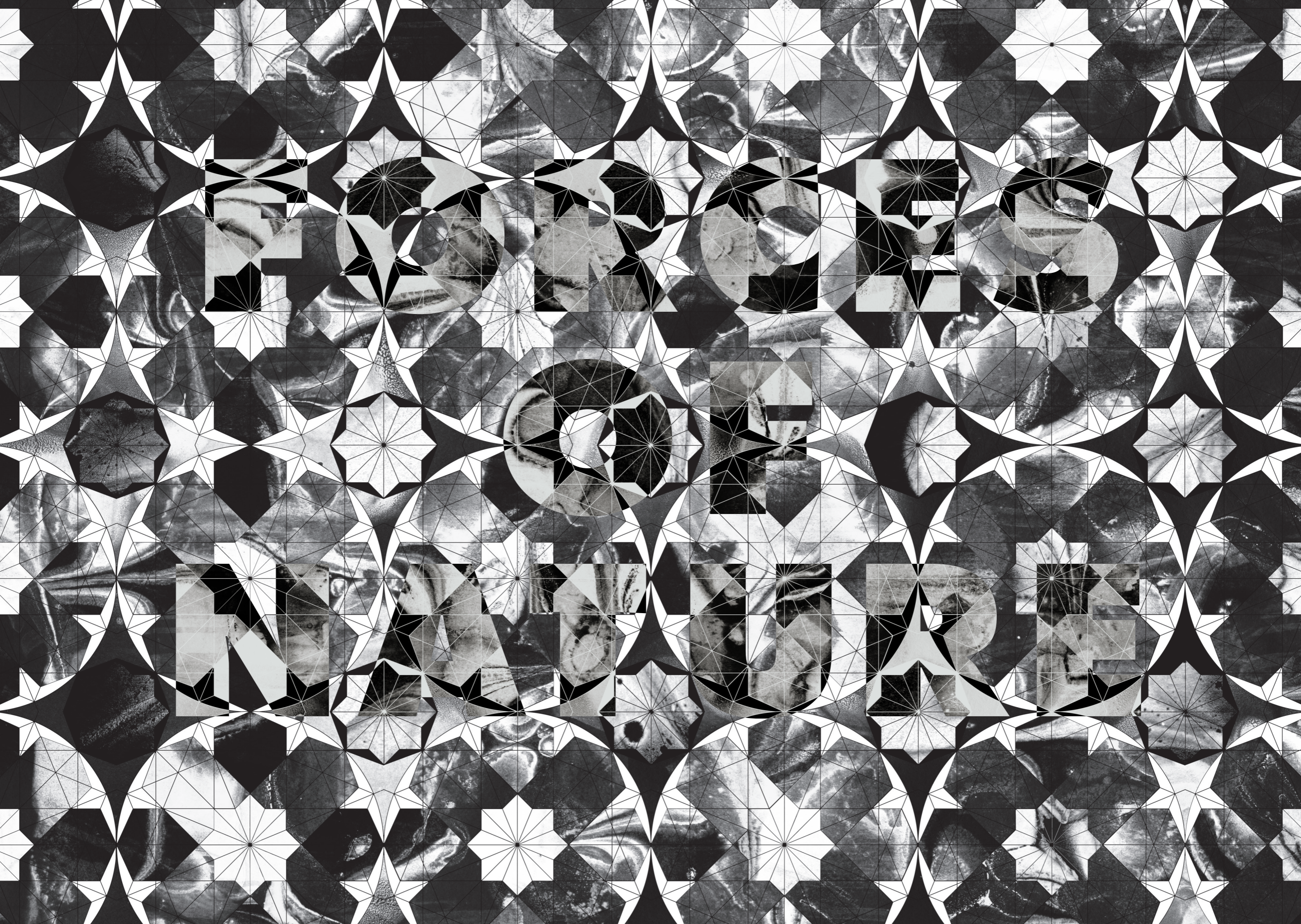




Unfortunately, as a society, we do not teach our children that they need to tend carefully the garden of their minds. Without structure, censorship, or discipline, our thoughts run rampant on automatic. Because we have not learned how to more carefully manage what goes on inside our brains, we remain vulnerable to not only what other people think about us, but also to advertising and/or political manipulation.

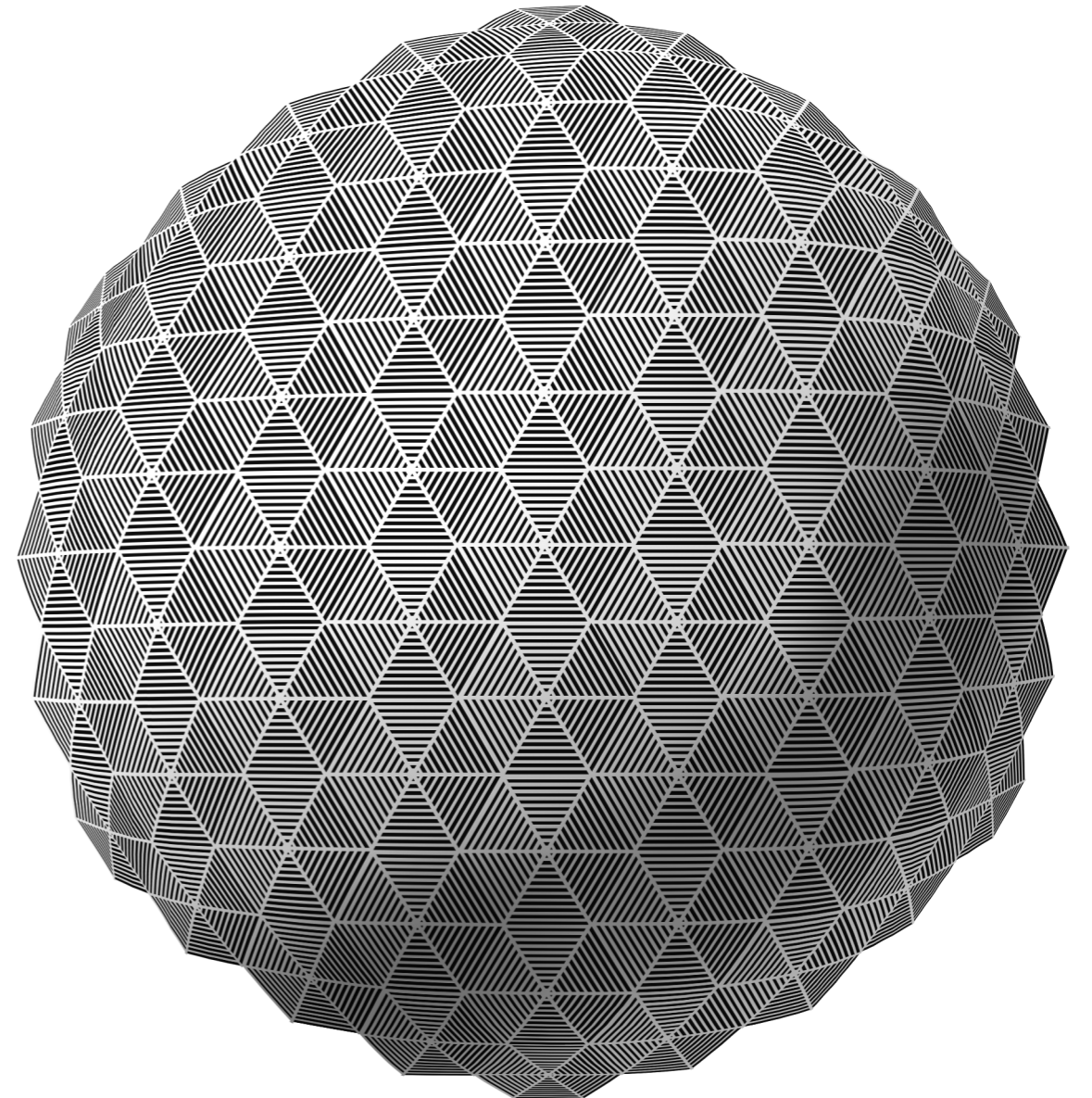
Jill Bolte Taylor

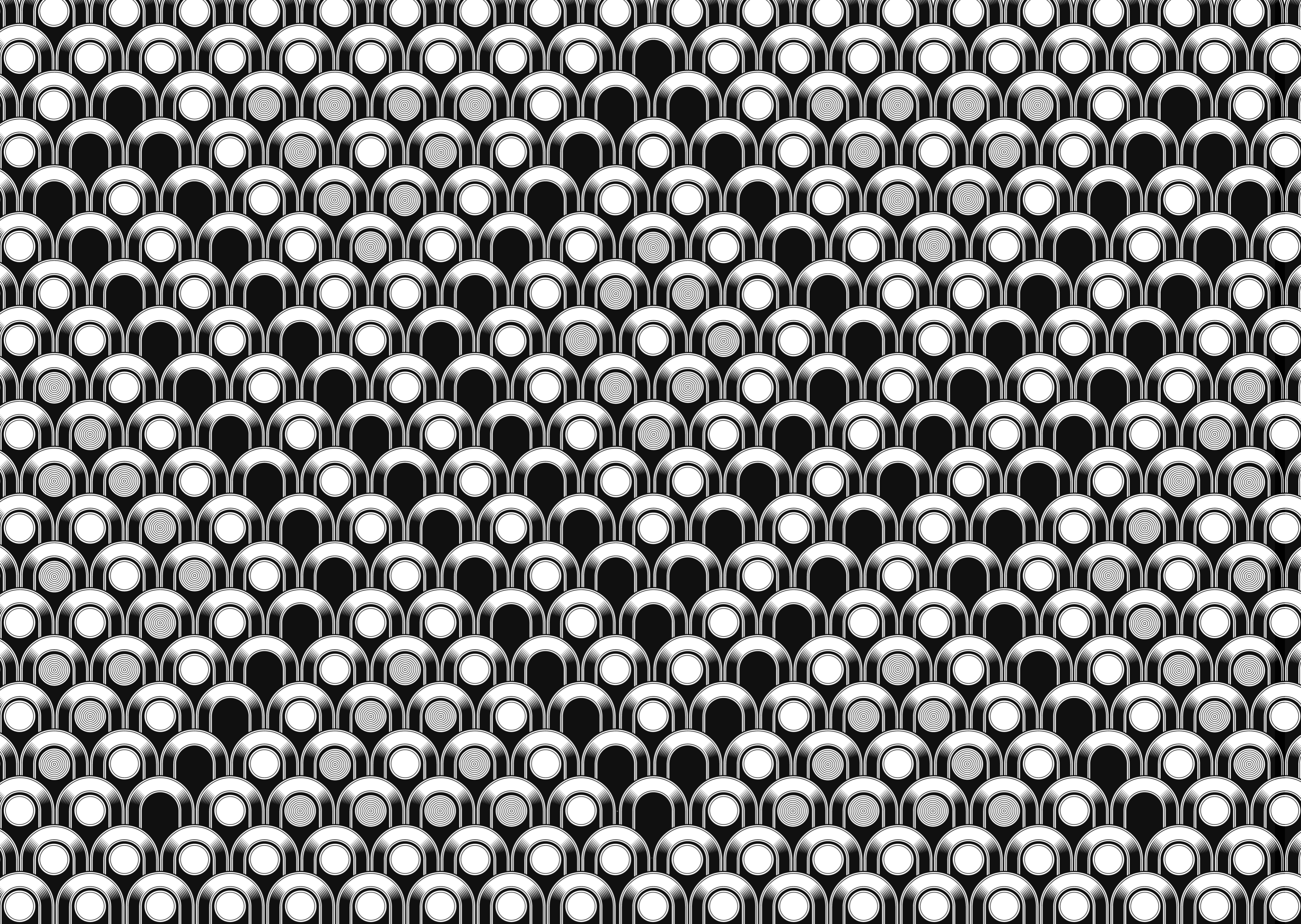


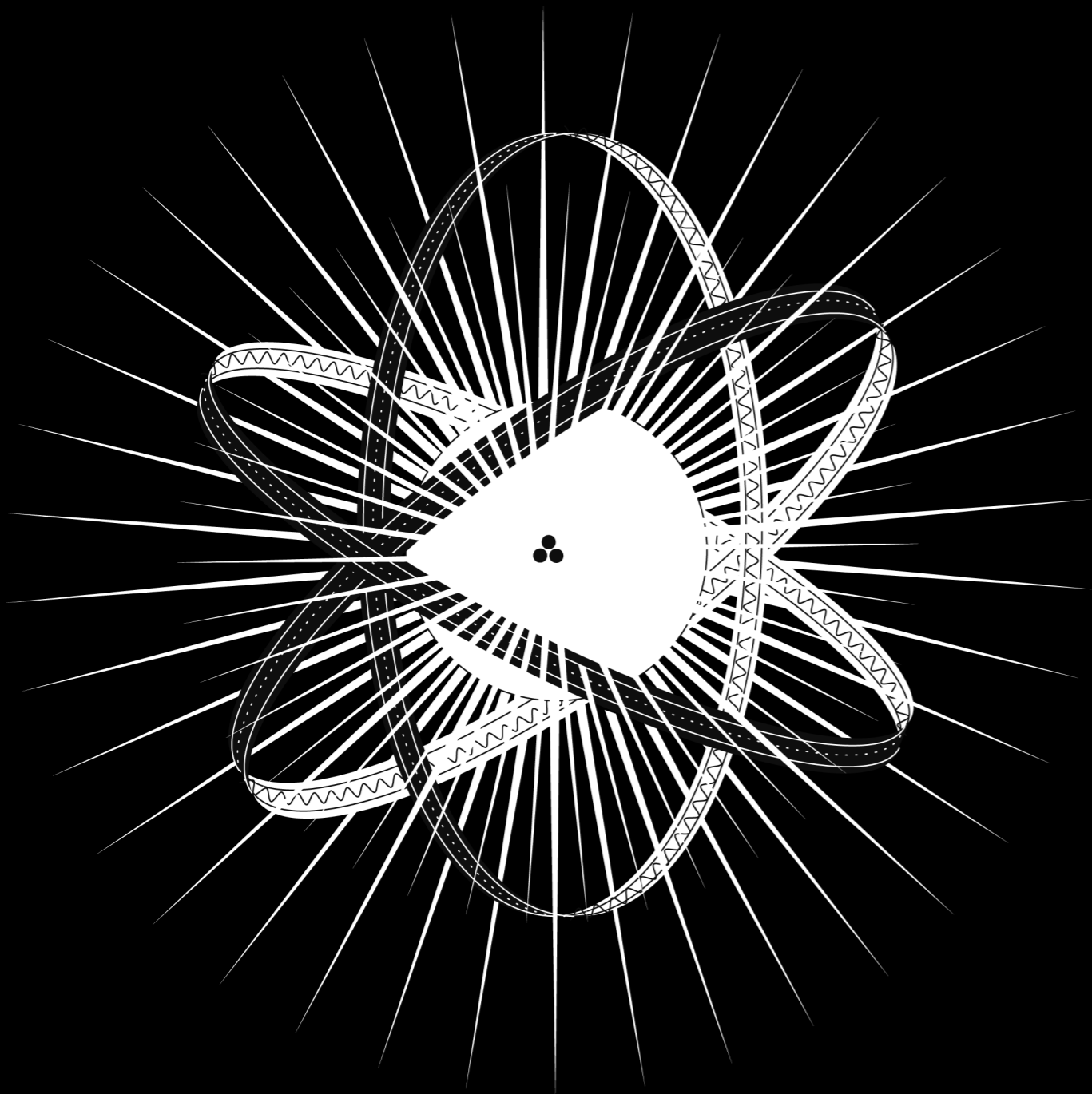


The world is made of fields, which appear to us as particles when we look at them. Something everyone should know.

Sean Carrol



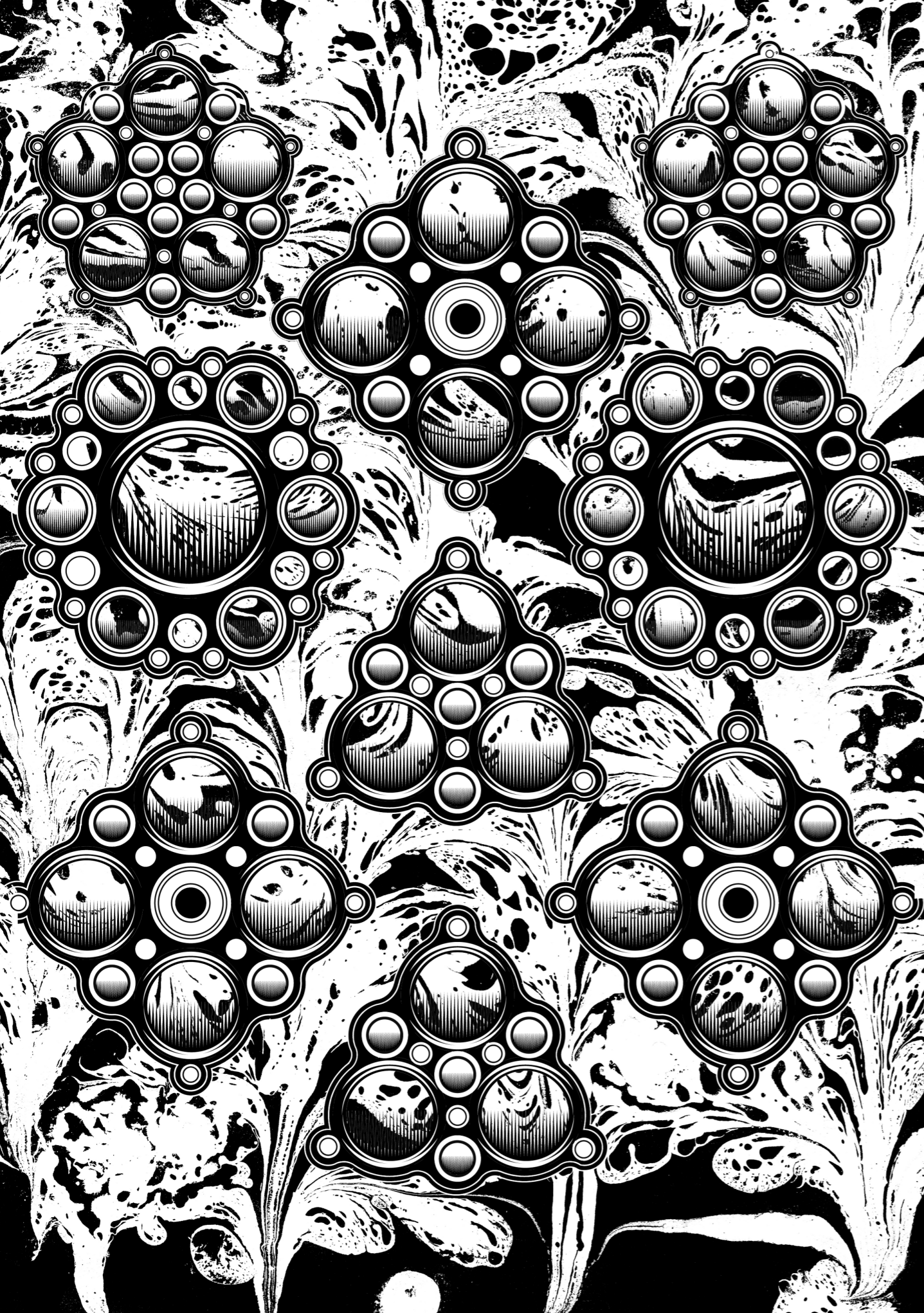




The atoms of our bodies are traceable to stars that manufactured them in their cores and exploded these enriched ingredients across our galaxy, billions of years ago. For this reason, we are biologically connected to every other living thing in the world. We are chemically connected to all molecules on Earth. And we are atomically connected to all atoms in the universe. We are not figuratively, but literally stardust.

Neil DeGrasse Tyson





Quantum fluctuations, which otherwise would have been completely invisible, get frozen by inflation and emerge afterward as density fluctuations that produce everything we can see! If we are all stardust, it is also true, if inflation happened, that we all, literally, emerged from quantum nothingness.

Lawrence Krauss






SCIENCE

Even if there is only one possible unified theory, it is just a set of rules and equations. What is it that breathes fire into the equations and makes a universe for them to describe? The usual approach of science of constructing a mathematical model cannot answer the questions of why there should be a universe for the model to describe. Why does the universe go to all the bother of existing?

Stephen Hawking





*I can live with doubt, and uncertainty, and not knowing.
I think it's much more interesting to live not knowing than
to have answers which might be wrong.*

Richard Feynman





*Politics and Religion are obsolete.
The time has come for Science and Spirituality.*

Jawaharlal Nehru

