

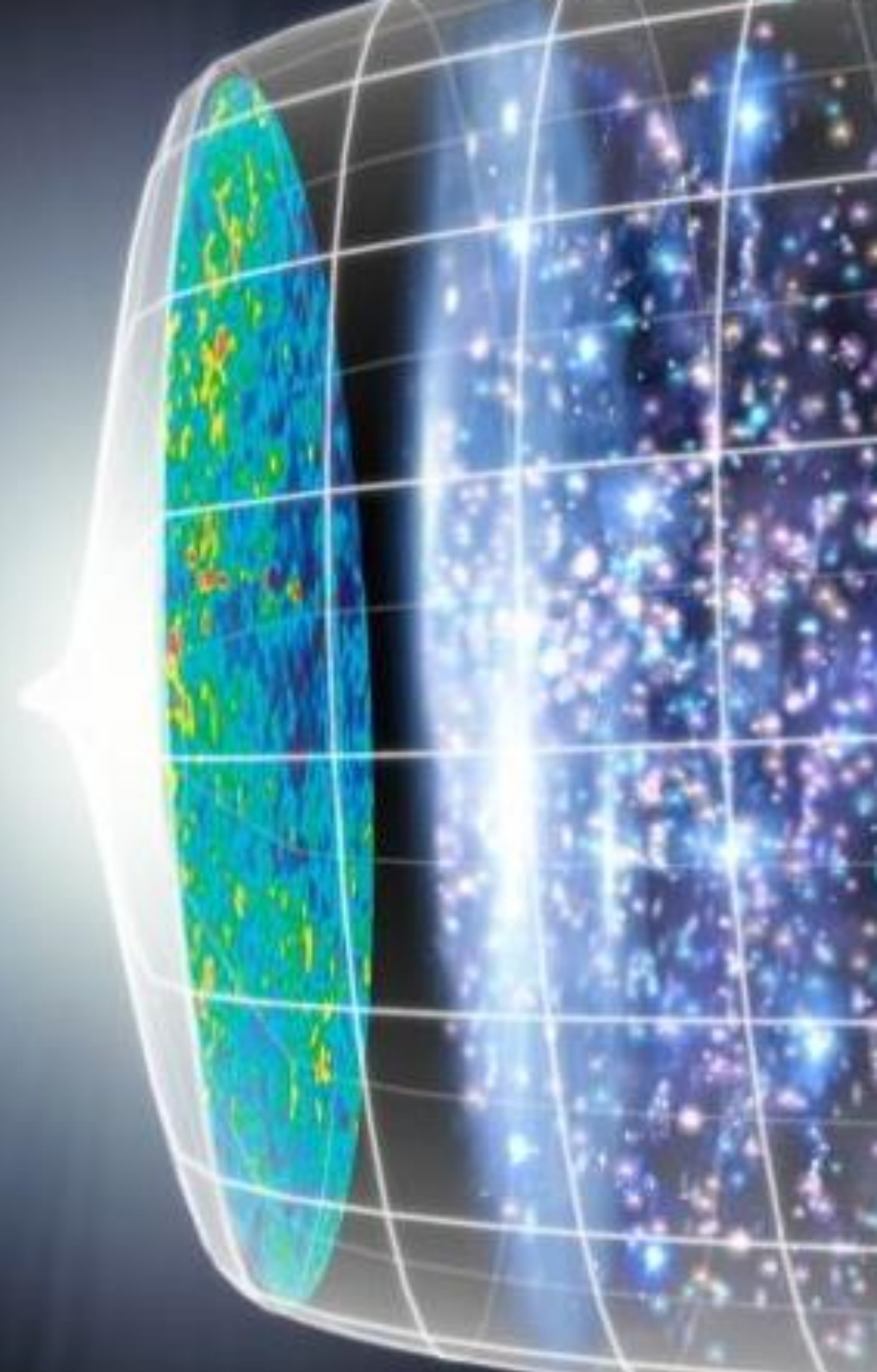
Why are we here?

A night sky filled with stars and a nebula, with the silhouette of a telescope on a ship's deck in the foreground.

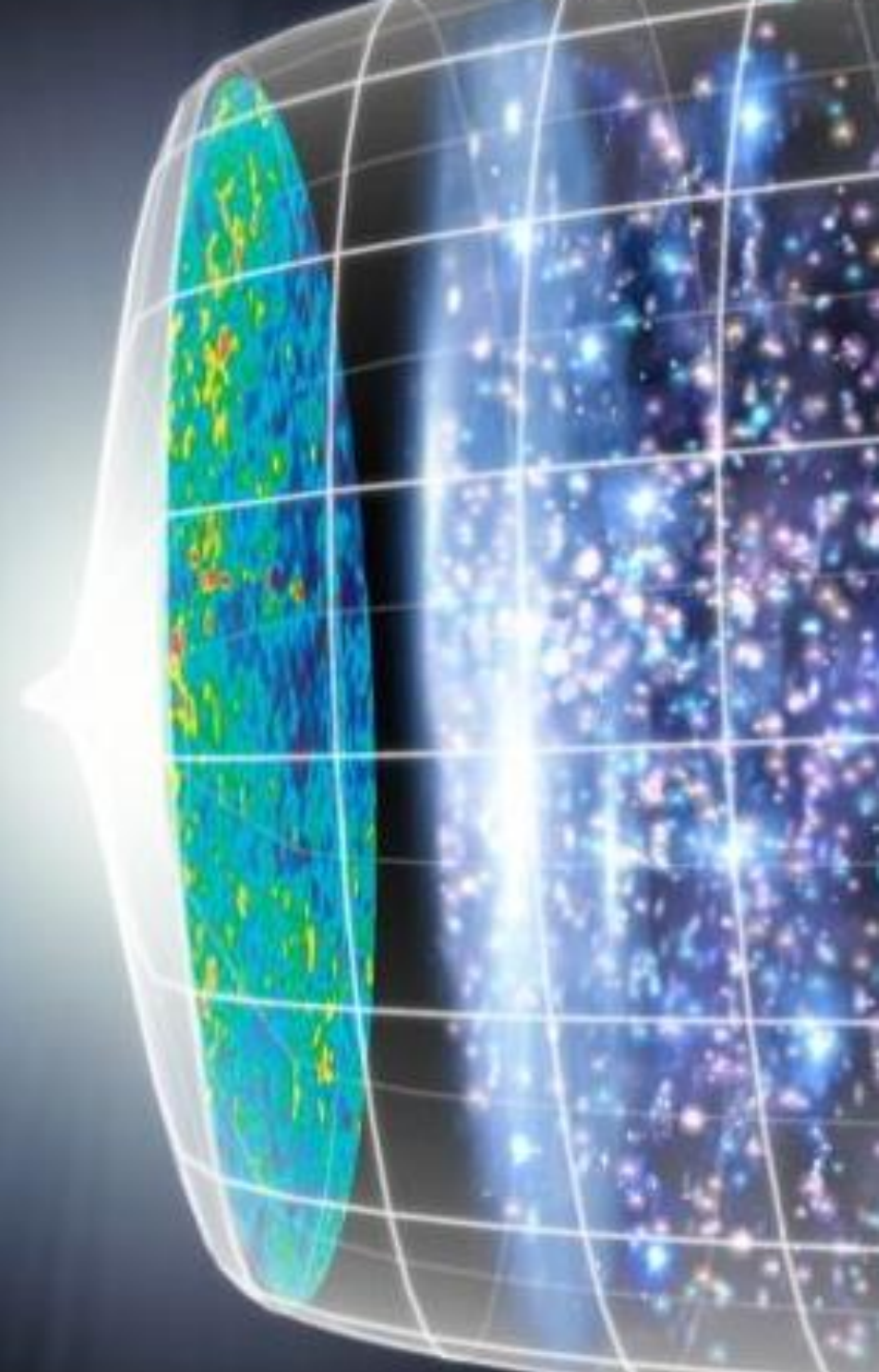
Dr Darren (Das) Baskill
Astronomer at the University of Sussex, UK

It all began
13.8bn years ago...

In an event
called the Big Bang



10^{-36} – 10^{-32} seconds in,
the Universe
inflated rapidly.

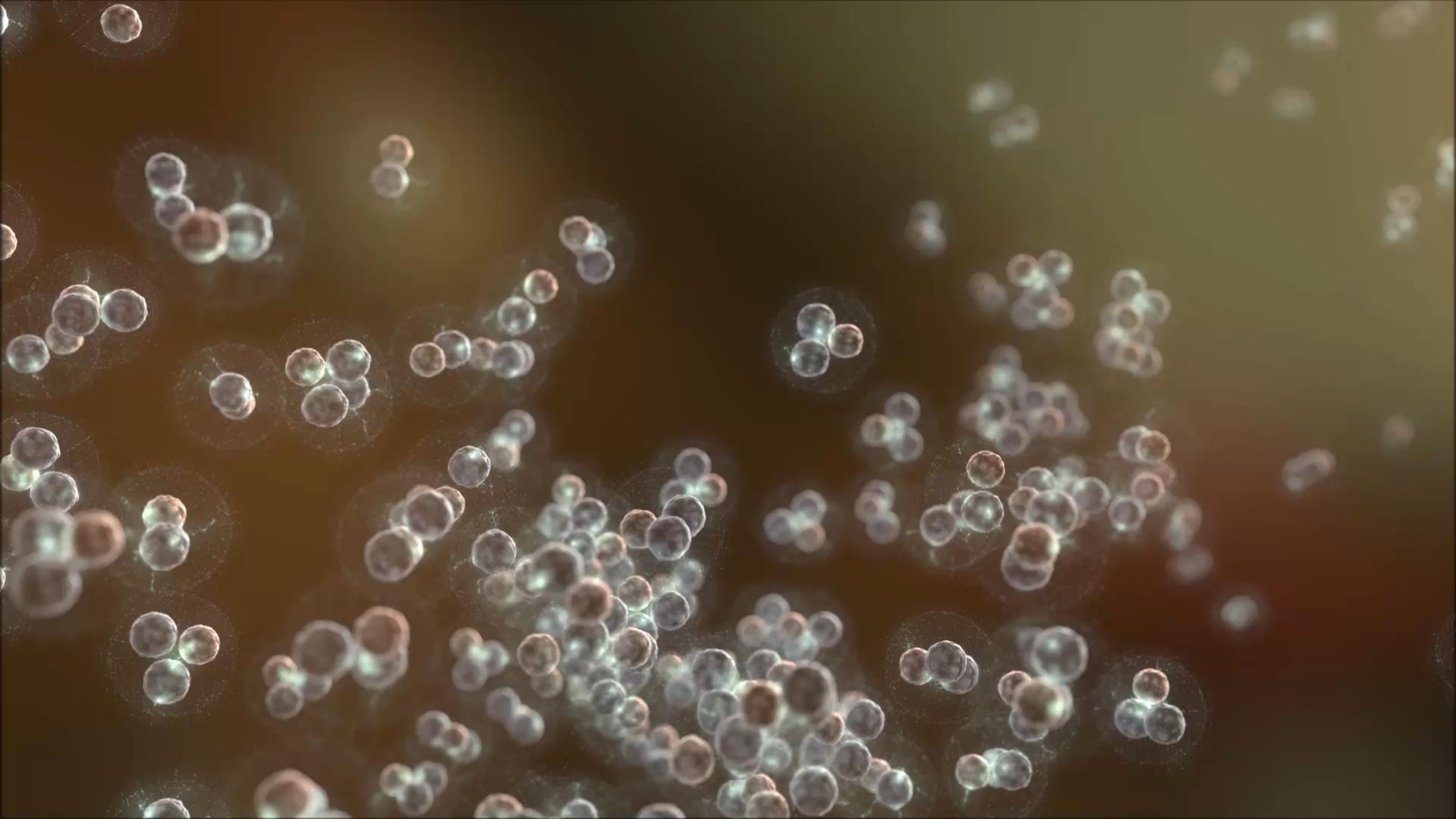


Anti-Matter Annihilation





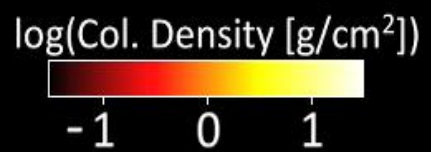
The University
of Sussex
nEDM
experiment



The first stars form

$Z=0.01 Z_{\odot}$

0 yr



Nuclear Fusion



Supernova



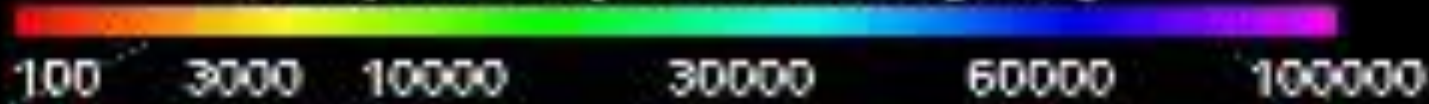
NASA/Chandra

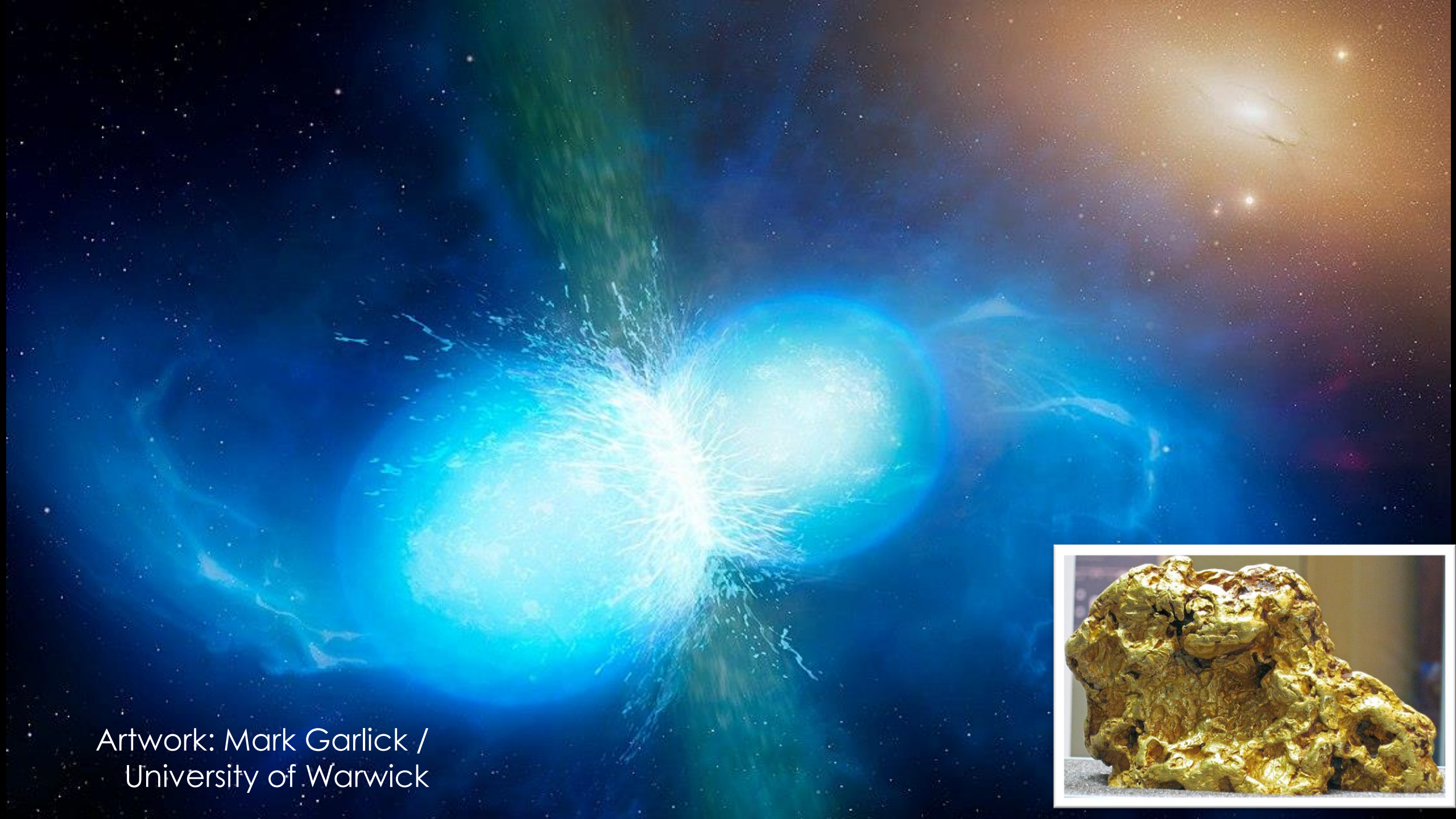
spreading elements



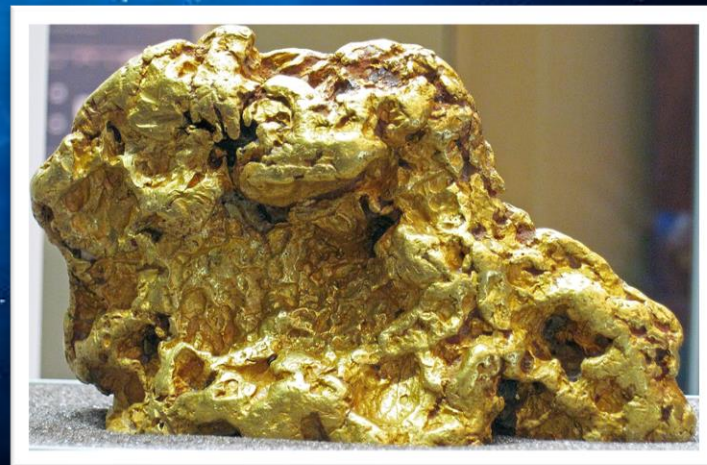


Temperature [millions of degrees]





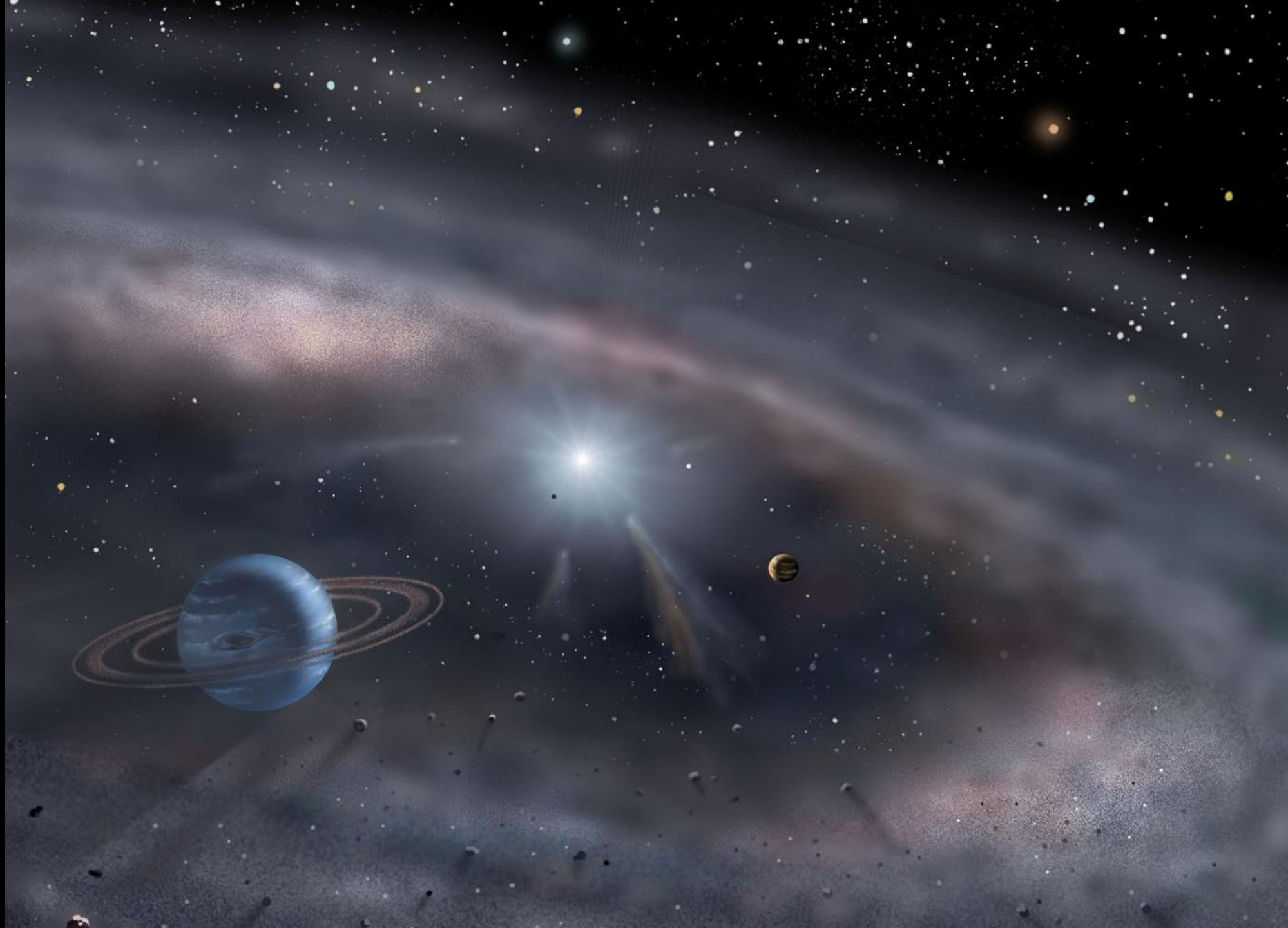
Artwork: Mark Garlick /
University of Warwick



2nd & 3rd generation stars



Our Solar System forms





©JAXA/NHK



History of life on Earth

The Earth formed 4.7bn years ago

Oceans ~200Myrs later

Life formed in the ocean after another few 100Myrs

- The earliest single cells fossils are 4bn years old!

Multi-cellular life formed 1.6bn years ago,
reached land 1.25bn years ago,
& plants evolved 1bn years ago

Complex animals evolved ~500Myrs ago



Lucky asteroid

Uh?!



Until, just 66 million years ago...

Lucky asteroid



Cute fluffy animals



A photograph of a chimpanzee and its young in a forest setting. The chimpanzee is on the left, looking towards the right. The young chimpanzee is on the right, looking towards the camera. The background is filled with green leaves and branches.

These animals evolved, spread
and developed to communicate,
make tools & farm food.

Recently, a very special primate formed.

These primates evolved into humans
~100,000 years ago



Humans can potentially communicate
with alien life on other worlds.

Humans



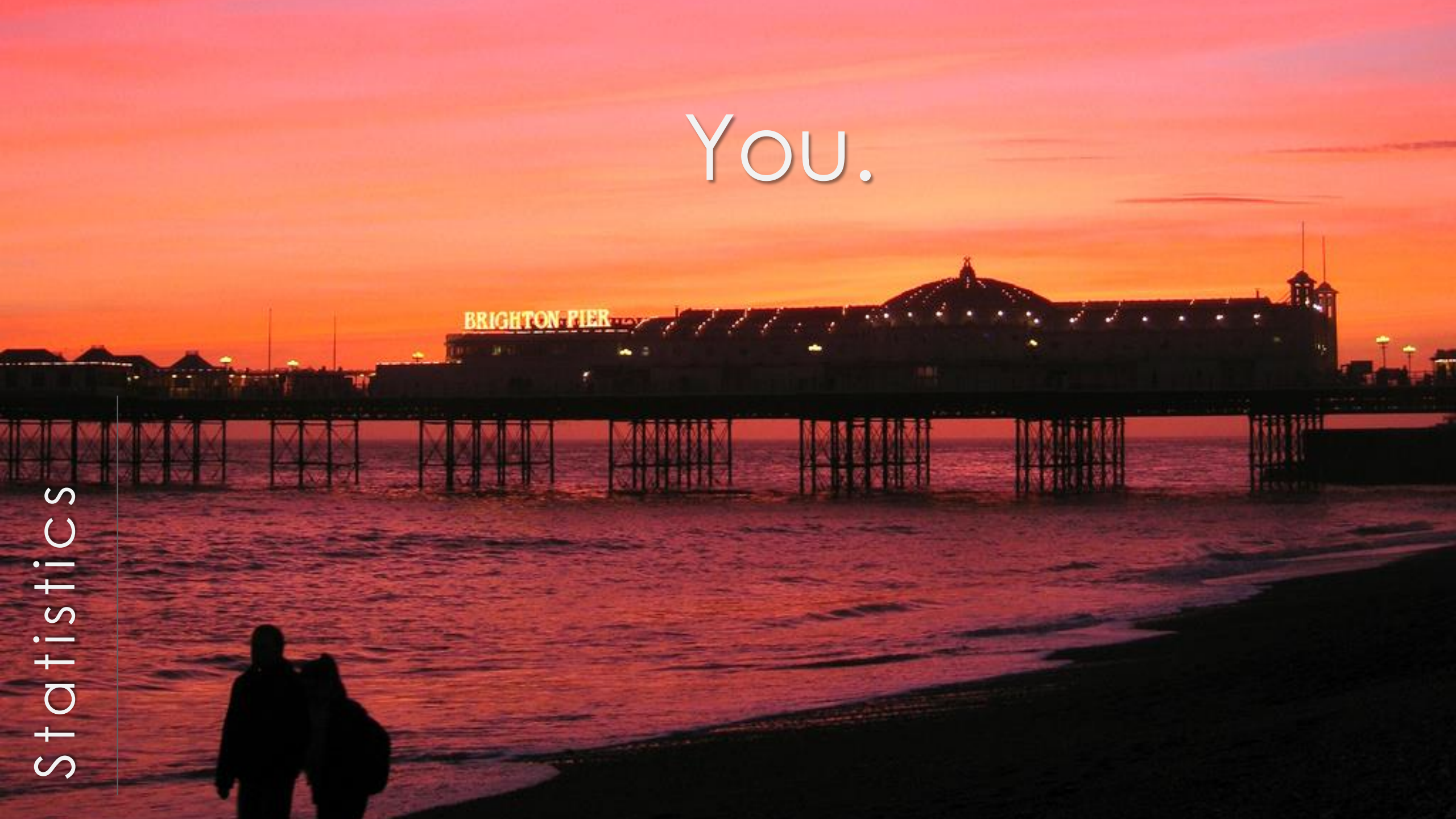
After 13.8 billion years
and a bit of luck,
one remarkable
individual formed.

Statistics



You.

Statistics



BIG BANG
FUSION

DYING
LOW MASS
STARS

EXPLODING
MASSIVE
STARS

COSMIC
RAY
FISSION

MERGING
NEUTRON
STARS

EXPLODING
WHITE
DWARFS

You are made
of atoms that
originated
inside stars.



1%

9.5%

16.5%

73%

A large flock of birds, likely terns, is captured in flight over a beach at sunset. The sky is a mix of soft pinks and purples, transitioning into a deep blue. The sun is a bright orange orb on the left side of the frame. In the distance, a lifeguard stand is visible on the beach. The overall scene is serene and captures a natural phenomenon.

You still follow the cycles
of our solar system to this day.

The daily cycle, as the Earth rotates.

You still follow the cycles
of our solar system to this day.



The weekly cycle...

A sunset over the ocean with a pier and birds in the sky. The sun is low on the horizon, casting a golden glow across the sky and water. The sky is filled with soft, orange and yellow clouds, and several birds are seen flying in the distance. In the foreground, the silhouettes of people are visible on a beach, and a large, dark structure, possibly a pier or a building, stands in the water.

You still follow the cycles
of our solar system to this day.

We celebrate annual cycles, as we
complete another orbit of the Solar System.

You still follow the cycles of our solar system to this day.

- Christmas & New year (Chinese or western)
- Easter
- Ramadan
- Halloween (Day of the Dead)
- May Day
- Norwegian Constitution Day (17th May)
- Burning of the Clocks in Brighton
- And many more.

All defined by the movement of the Earth (& Moon)
around the Solar System.

You,
and everything around you,
is closely linked to

Our Place
in the
Universe(s)

Why are we here?

A night sky filled with stars and a nebula, with the silhouette of a telescope on a ship's deck in the foreground.

Dr Darren (Das) Baskill
Astronomer at the University of Sussex, UK