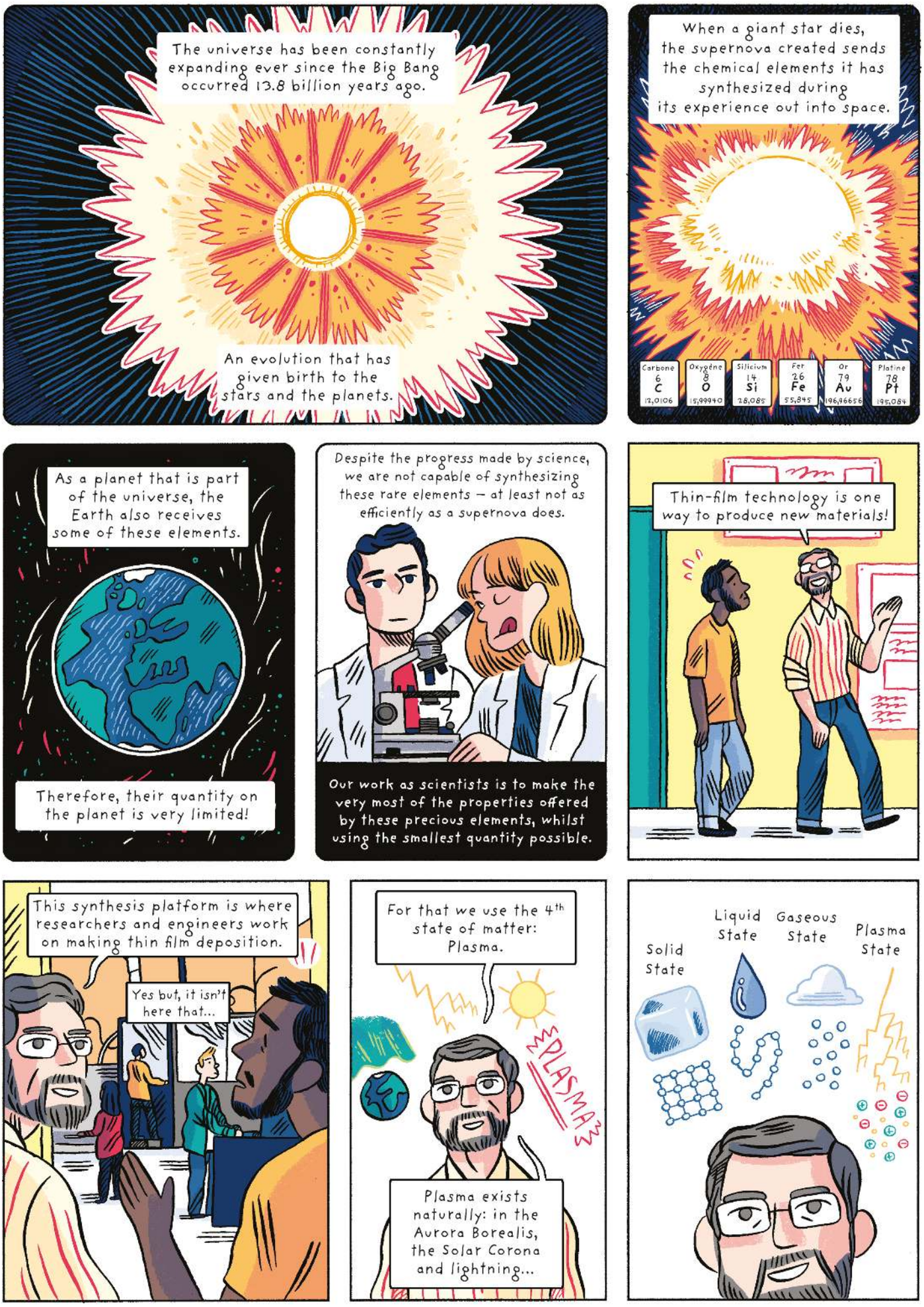
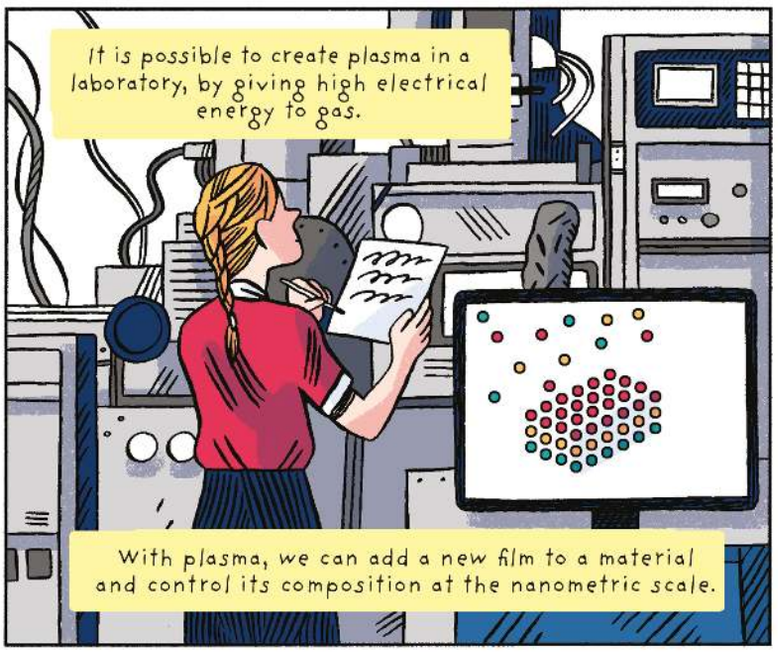

The universe has been constantly expanding ever since the Big Bang occurred 13.8 billion years ago.
An evolution that has given birth to the stars and the planets.
When a giant star dies, the supernova created sends the chemical elements it has synthesized during its experience out into space.
Carbone 6 C 12,0106
Oxygène 8 O 15,9994
Silicium 14 Si 28,085
Fer 26 Fe 55,845
Or 79 Au 196,96656
Platine 78 Pt 195,084
As a planet that is part of the universe, the Earth also receives some of these elements.
Therefore, their quantity on the planet is very limited!
Despite the progress made by science, we are not capable of synthesizing these rare elements – at least not as efficiently as a supernova does.
Our work as scientists is to make the very most of the properties offered by these precious elements, whilst using the smallest quantity possible.
Thin-film technology is one way to produce new materials!
This synthesis platform is where researchers and engineers work on making thin film deposition.
Yes but, it isn't here that...
For that we use the 4th state of matter: Plasma.
PLASMA
Plasma exists naturally: in the Aurora Borealis, the Solar Corona and lightning...
Solid State
Liquid State
Gaseous State
Plasma State


It is possible to create plasma in a laboratory, by giving high electrical energy to gas.
With plasma, we can add a new film to a material and control its composition at the nanometric scale.


See, on this slab we've deposited a very thin layer thanks to the plasma.
I know, but...
It behaves like a lotus leaf: it's water repellent.
Yes, b...


Look at these two materials.
One doesn't have a thin film applied by plasma.
The other does.
It is impossible to scratch this surface.


This is also the technology that makes touchscreens work.


Let's finish with the lab where we carry out the chemical analyses and study at the nanometric scale the properties of the thin layers we produce.
Once the thin film has been deposited, Nathalie's team analyses it, checking its properties and chemical composition.


Nathalie, have you got a minute?
Sorry Sir, but...


... actually, I've just joined Nathalie's team!
Ah, so you already know each other?
HAHAHA


Let me guess Brian, Patrick's just given you the grand tour of the lab...?
HA HA
HA
HA