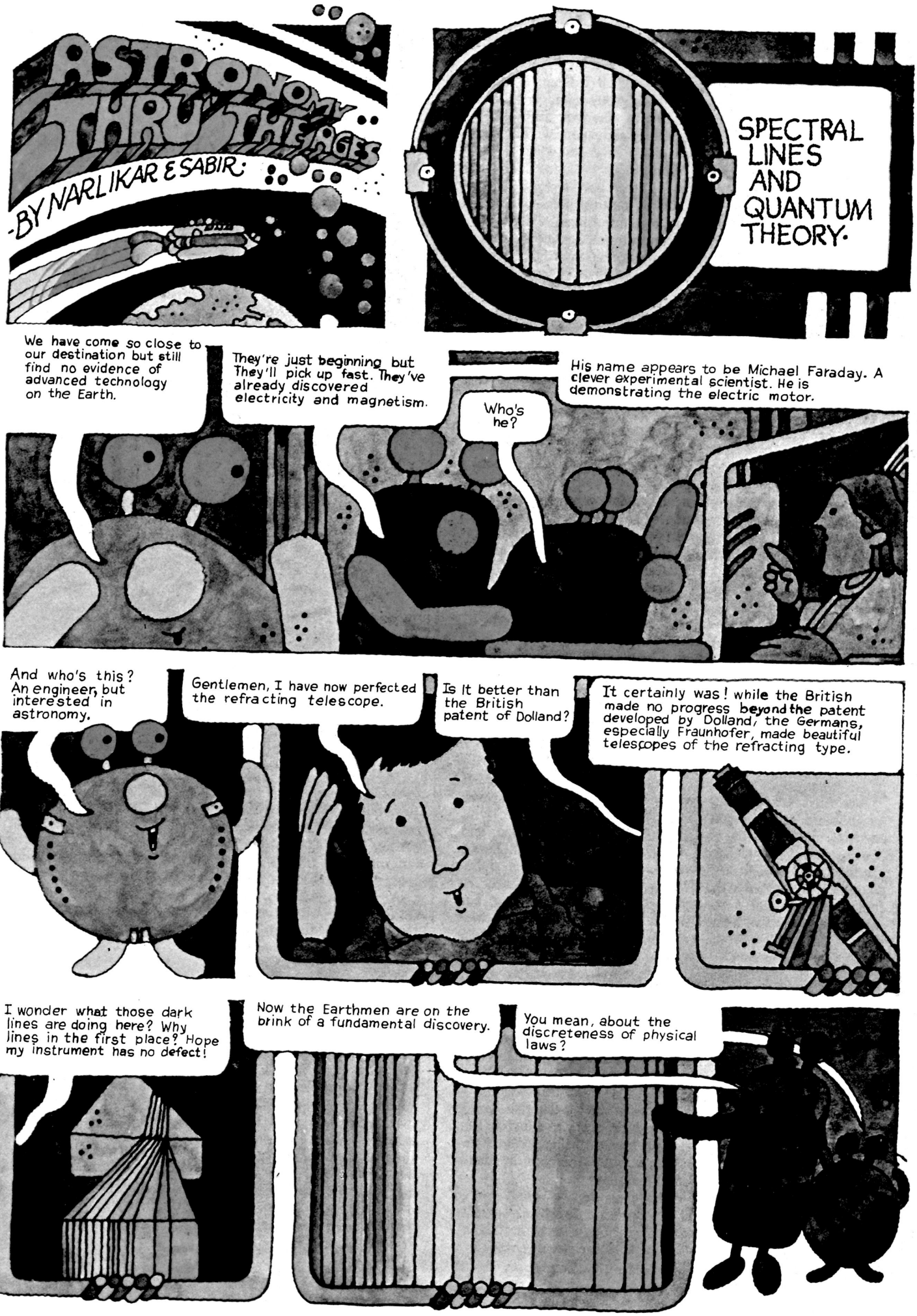
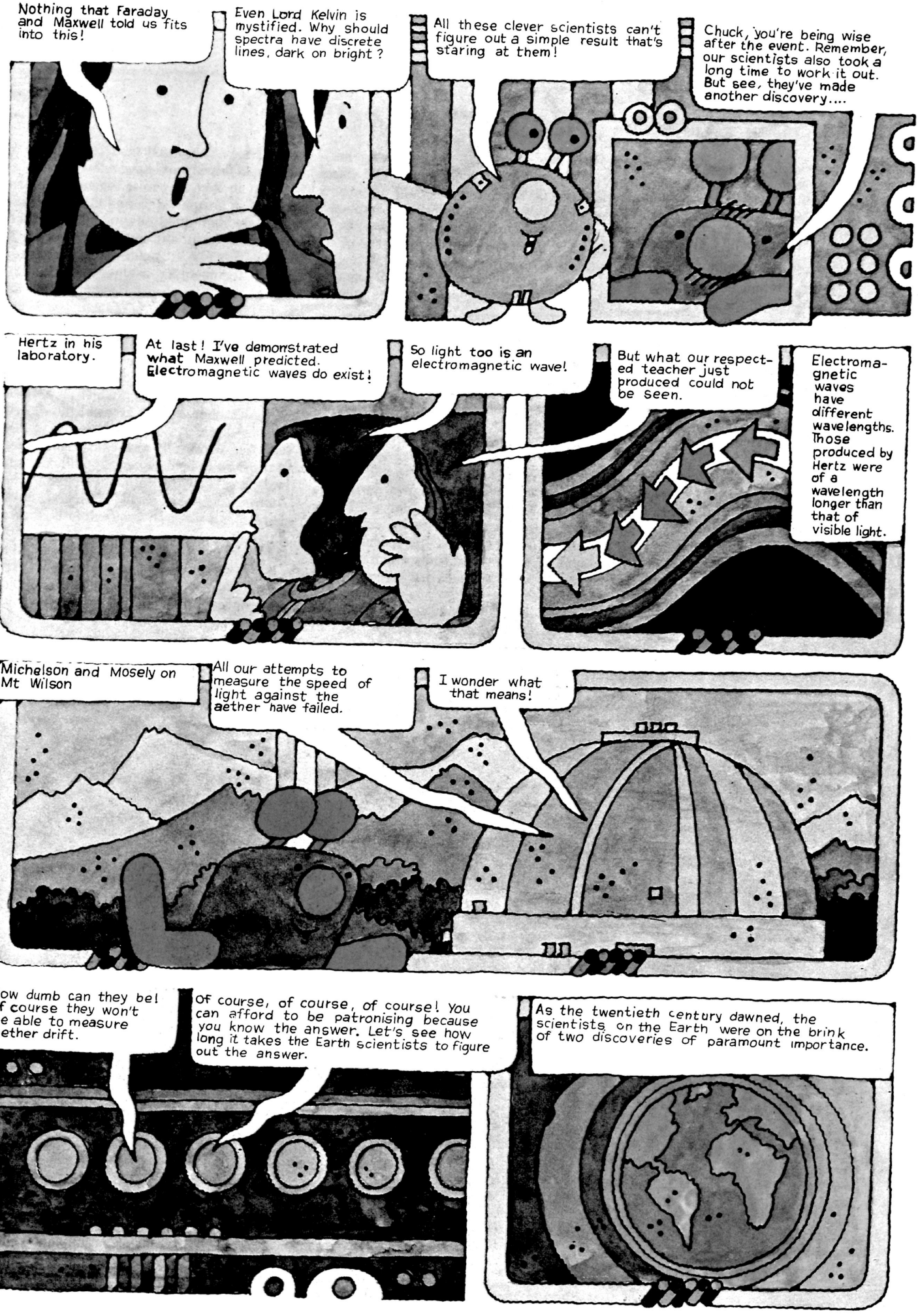

ASTRONOMY THRU THE AGES
-BY NARLIKAR & SABIR.
SPECTRAL LINES AND QUANTUM THEORY.
We have come so close to our destination but still find no evidence of advanced technology on the Earth.
They're just beginning but They'll pick up fast. They've already discovered electricity and magnetism.
Who's he?
His name appears to be Michael Faraday. A clever experimental scientist. He is demonstrating the electric motor.
And who's this? An engineer, but interested in astronomy.
Gentlemen, I have now perfected the refracting telescope.
Is it better than the British patent of Dolland?
It certainly was! while the British made no progress beyond the patent developed by Dolland, the Germans, especially Fraunhofer, made beautiful telescopes of the refracting type.
I wonder what those dark lines are doing here? Why lines in the first place? Hope my instrument has no defect!
Now the Earthmen are on the brink of a fundamental discovery.
You mean, about the discreteness of physical laws?


Nothing that Faraday and Maxwell told us fits into this!
Even Lord Kelvin is mystified. Why should spectra have discrete lines, dark on bright?
All these clever scientists can't figure out a simple result that's staring at them!
Chuck, you're being wise after the event. Remember, our scientists also took a long time to work it out. But see, they've made another discovery....
Hertz in his laboratory.
At last! I've demonstrated what Maxwell predicted. Electromagnetic waves do exist!
So light too is an electromagnetic wave!
But what our respected teacher just produced could not be seen.
Electromagnetic waves have different wavelengths. Those produced by Hertz were of a wavelength longer than that of visible light.
Michelson and Mosely on Mt Wilson
All our attempts to measure the speed of light against the aether have failed.
I wonder what that means!
How dumb can they be! Of course they won't be able to measure aether drift.
Of course, of course, of course! You can afford to be patronising because you know the answer. Let's see how long it takes the Earth scientists to figure out the answer.
As the twentieth century dawned, the scientists on the Earth were on the brink of two discoveries of paramount importance.