

Minutes of the Ordinary Meeting of the Cape Centre
held at S.A.A.O. on Wed 2/4/80

Present were 23 Members and 7 visitors.

Apologies for absence were received from Dr Dean,
Mrs Hardy, Mrs Saville, Mrs Simpson, Y. Smith,
Mrs Lamy.

It was announced that Pluto was to occult
a 12th Magnitude Star on April the 6th.
± 23^h16 U.T.

Then followed an interesting talk by Prof
Gustav Tammann a world authority on
the "Age of the Universe."

We have been studying the universe for
a relatively short time ~~of~~ So how
shall we determine its age?

The professor made a good analogy:

Study a car crash. You can determine
from the skid marks etc. all you
need to know about the speed and
direction of the vehicles.

In the universe one can study eg
the H:He ratio and the age,
abundance and distribution of radioactive
elements eg the Ratio of U/Pb.

We have determined that these very heavy
radioactive elements must have been
formed in supernova explosions.

We deduce the time of the first supernova
13 - 20 Billion years ago.

~~The age of~~ We can also examine globular

Star Cluster. We find them to be very old celestial bodies $\pm 16 \times 10^9$ years.

On examining the spectrum of elliptical galaxies we find that the more distant galaxies have their characteristic H, K lines of calcium eg "red shifted". Red shifts are Doppler shifts and the galaxies are thus moving away from us. Hubble in 1929 deduced his famous law: The Recession of velocity of galaxies increase linearly with distance.

We find that everything in the universe with few exceptions is flying away from us and we have the illusion that we are at the centre of a giant ^{primordial} explosion. We deduce that the universe as we know it today started with a "Big Bang" which occurred 18×10^9 years ago. The $3 K^\circ$ background radiation in the universe substantiates this theory.

The professor also deduced that the braking effect of gravitation would not be enough to reverse the expansion of the universe and it would thus expand forever!

Signed as Correct
J F Dean.