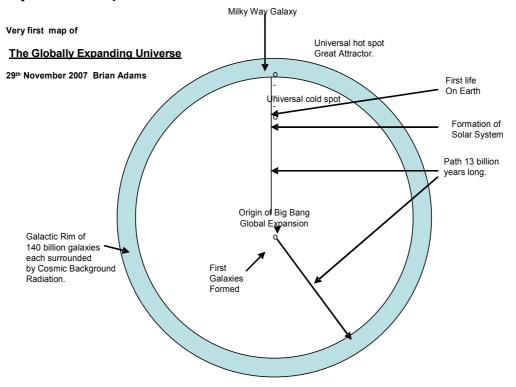
www.theuglyfact.co.uk article 6b of six.

On The Evolution of Galaxies from a Central Origin. ***Time was when all scientists were outsiders ... from Nicholaus Copernicus to Charles Darwin. Editors of New Scientist, "It pays to Keep a Little Craziness," New Scientist September 9, 2006.



Universe always expands as a globe from an original very small hot dense globe 'o' getting larger and cooler as it does so. Today billions of Earth years later the Universal Globe and the Cosmos within it is astronomically enormous. Newton and Einstein's Universe (one solar system/one galaxy) is, on the global scale size, just a speck. Now we have the correct shape we can begin, for centuries to come, to fill in the map of the Universal globe just as for hundreds of years past we have been 'filling' in the map of the Globe of Earth.

The exciting part of each globe, Earth and the Universal Cosmos is the part we still have to fill in. Science over, it has scarcely begun.

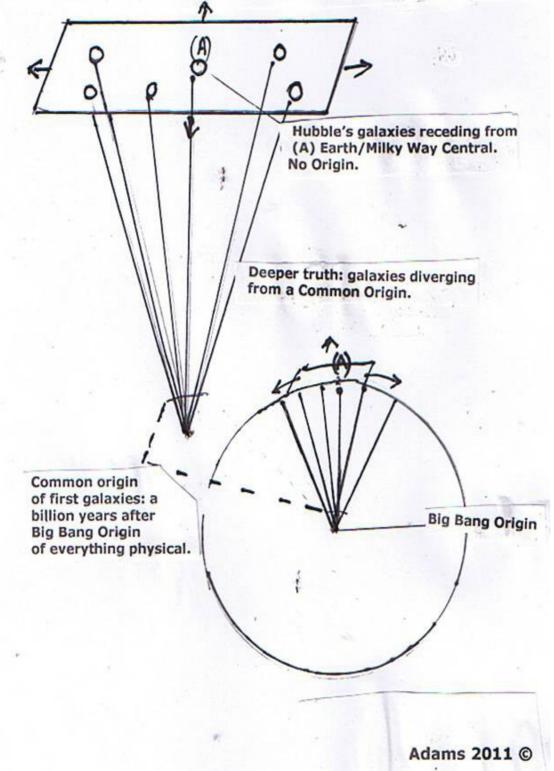
<u>Zoom</u>

Hubble's 'flat, sagging mattress Universe' established since 1930 now has a Global alternative made possible by new key technology, scientific evidence, & a bigger picture not available to him or any of his contemporaries? _

Copernicus & Darwin both initiated BIG DEBATES among those interested. This pretty much all an individual, in any human endeavour, can achieve at a New Beginning.

THE GREAT DEBATE: which is the cause and which the effect.

For 80 years Hubble's idea of galaxies RECEDING from the Earth/Milky Way galaxy has masked a deeper truth – cause galaxies DIVERGING from a Common Origin.



Today there are millions of diagrams of a vast ballooning

Universe with all the galaxies located on a rim. But <u>where</u> <u>was</u> (past) the location of the Origin all these billions of galaxies with and all their continually transforming and changing internal contents?

So far every science <u>theory</u>, every physical law, every star map, the Big Bang Theory itself has its origin in a <u>World</u> <u>View</u> from human home planet Earth. World Views have changed over the millennia as technology has advanced optical lens telescopes & microscopes, spectroscopes, electron microscopes, radio telescopes, & 1965 & again 1989 (NASA) <u>thermoscopes</u> (helium cooled radio telescopes).

- Earth, flat or global, stationary in space (ancients).
- Then a stationary Solar System the planet Earth spins around the Sun coming back a year later to almost the same position in space (Newton).
- Then a 'flat stationary Universe' (Einstein 1915).
- Then a 'flat expanding Universe' (Hubble 1930).
- Now another alternative `a global Dark (<u>vaccum)</u> <u>Energy</u> Universe¹ expanding from a Central Origin'.

***Human curiosity about our own world and the wider Universe has expanded vastly over the past few decades... continues to be the aspect of space that <u>sparks the public</u> <u>imagination...</u>feeds into innovative terrestrial applications and directly contributes to industrial competitiveness._ Cosmic Vision 2020 European Space Agency May 2005.

***The last fifty years has been the Golden Age of American space science discoveries gained from intercepting that which was previously hidden from all of us by reason of less advanced technology.

The Great Debate: parts 1 is now a necessity if only for two reasons – the reason given by the European Space Agency May 2005 and the United States National Center for Education and the Economy 2007. "The core problem is that our education and training systems were designed for another era. We can get where we must only by changing the whole system." The United States National Center Education & the Economy published 2007.

Hubbles Law of Receding Galaxies 1930.

In formulating his law Hubble 1930 forgot if he ever knew, one significant fact: the wavelengths of light, sound, radio, radar begin to *lose some energy over distance* as soon as they leave a source. This happens whether the source is a Sun/star, an opera singer, a light bulb, or from a time before Suns, opera singers, or light bulbs – the Big Bang Origin.

Note1. This energy loss is so small that it can be masked over <u>shorter</u> distances by the so called Doppler Effect 1843 but over much longer distance example from galaxies to Earth, from Big Bang Origin the energy losses become far from insignificant.

This loss of some thermal (heat) energy is the <u>cause</u> of the well known 'shift' towards the red end (less energy content) of the radiation spectrum & why atomic clocks as with all clocks need 'energy refuelling' or <u>they lose time.</u>

Diagram1. <u>Radiation spectrum.</u>

High energy blue >>>>>>>>>>>>>>>>blow Energy Red

2013 Another Era - On Dark Energy.

- Dark Energy: "<u>an entire new ocean of discovery</u>... extraordinary opportunity for physics and astronomy community...as we start probing everything from structure of atom to entire Universe". M. Aizenman. National Science Foundation. USA.
- Dark Energy: <u>"central importance</u> to our understanding of how and why Universe works ... on the path to a comprehensive <u>physical</u> theory". Steven Weinberg University of Texas. USA.

The causes of Dark Energy: paper1 after the INTRODUCTION www.theuglyfact.co.uk

Adams (UK) 2014.