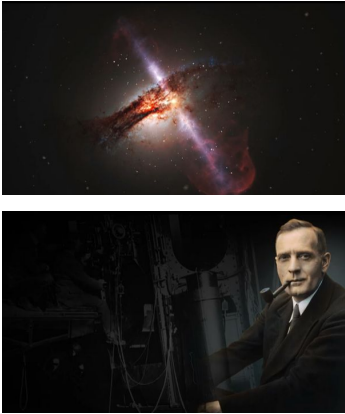
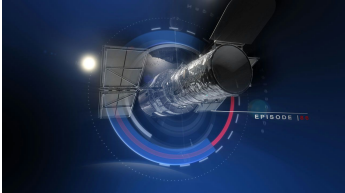





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Keywords: Edwin Hubble

Hubblecast Episode 89: Edwin Hubble	Visual notes
<p>00:00 [Narrator] 1. Over the last century, astronomers have discovered many new and mysterious cosmic objects; such as quasars, black holes, gamma-ray bursts, and distant exoplanets.</p> <p>Recent discoveries may be impressive, but in just a few remarkable years in the 1920s, one man single-handedly changed our perception of our place in the Universe. His name was Dr Edwin Powell Hubble.</p>	
<p>00:37 2. Intro</p>	
<p>00:53 [Narrator] 3. Born in Missouri in 1889, Edwin Powell Hubble developed an early passion for astronomy after receiving his first telescope when he was just eight years old.</p>	

In 1917, whilst working on his doctorate, Hubble received a life-changing job offer from George Ellery Hale, founder of the Mount Wilson Observatory in California.

But, the opportunity came at a bad time — the United States had just entered World War One and Hubble enlisted in the military.

In 1919, Major Hubble returned from the war and immediately travelled to the Mount Wilson Observatory. Still in uniform, he arrived and announced that he was ready to start observing.



01:53

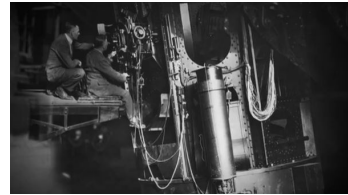
[Narrator]

4.

In 1923, Hubble made his first important discovery using the most advanced technology of the time — the 2.5-metre Hooker Telescope.

Measuring the distance to pulsating stars known as Cepheid variables, he discovered that they reside in galaxies outside our own.

At the time, the prevailing view was that the Universe consisted only of the Milky Way Galaxy. Hubble's discovery that our galaxy is just one of many forever changed the way we view our place in the Universe.



02:35

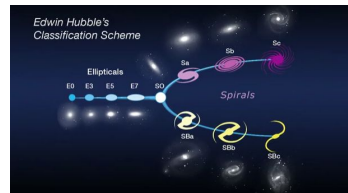
[Narrator]

5.

Following this groundbreaking discovery, Hubble began to sort and classify the galaxies he discovered.

He arranged them according to their visual appearance — into spirals, ellipticals, lenticulars and those with an irregular appearance.

This became known as the Hubble sequence and it is still the most popular system for classifying galaxies.



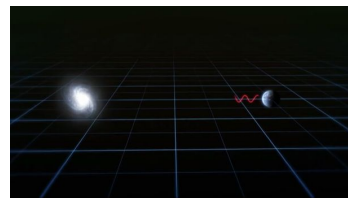
03:06

[Narrator]

6.

Hubble's greatest achievement came in 1929, when he determined that the light we receive from galaxies is redder the further away they are from us. From this he was able to deduce that the further away a galaxy is, the faster it recedes.

Named Hubble's Law, the observational discovery of this relationship overturned the conventional view of a static Universe and demonstrated that the Universe itself was



expanding — providing the first observational evidence for the Big Bang theory.



03:52

[Narrator]

7.

Hubble spent the later part of his career campaigning for astronomy to be recognised as an area of physics by the Nobel Prize Committee.

The committee finally made astronomical work eligible for the Physics Prize in 1953, but Hubble was never to know, as he had died just a few months earlier.

Had the decision come sooner, Hubble may well have lived to receive one.



04:30

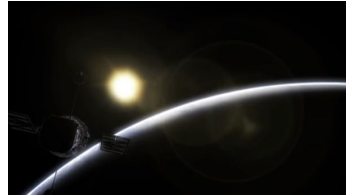
[Narrator]

8.

Thirty years after Edwin Hubble's death, NASA and the European Space Agency christened their new space telescope after Edwin Hubble.

Hubble was the obvious choice when naming a new observatory that would revolutionise the field of astronomy.

Edwin Hubble changed our perception of the Universe and our place within it, and his spirit of discovery lives on today through the Hubble Space Telescope.



Ends 05:58