Cosmic cannibalism

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In news– The Hubble space telescope has for the first time viewed cosmic cannibalism in deep space **where a star is eating its own planets.**
What is cosmic cannibalism?

- It is a cosmic phenomenon where a star is ending its life so violently that the **dead star left behind, called a white dwarf, is disrupting an entire planetary system by sucking in debris from both its inner and outer reaches.**
- The **white dwarf star is consuming the rock-metallic and icy material**, both of which are the "ingredients of planets".
- The researchers obtained the findings based on the analysis of material captured by the atmosphere of the nearby white dwarf star G238-44.
- **A white dwarf is formed when a low-mass star like our sun exhausts most of its nuclear fuel.** It is usually **very dens**e and about the size of a planet.
- These research findings are also interesting because **icy objects are credited for crashing into dry rocky planets in the solar system and "irrigating them".**
- **Such comets and asteroids are believed to have delivered water to Earth billions of years ago,** thereby sparking the conditions necessary for life as we know it.
- **Current planetary system evolution theories describe the transition of a red giant star to a white dwarf as a chaotic process.**
- These stars quickly lose their outer layers and the orbits of their planets change dramatically. Small objects like asteroids and dwarf planets can end up getting too close and sent plummeting towards the star.
- This new study confirms the nature of this violent and chaotic phase and showed that **within 100 million years**

after the beginning of their white dwarf phase, stars are able to simultaneously capture and consume material from regions similar to our asteroid belt and Kuiper belt.

- This white dwarf's cannibalism presents a unique opportunity to allow scientists to observe what they were made of when they first formed around the star. **The research team measured the presence of nitrogen, oxygen, magnesium, silicon, iron and other elements.**