










<p>Hubblecast Episode 61: A tour of NGC 5189</p>		
<p>00:00        [Dr J]        A planetary nebula represents one of the final stages in the life of a star like our Sun.</p> <p>Near the end of its life, before it consumes all of its remaining fuel, a star expels its outer layers. These are then excited by the radiation of the star and begin to glow brightly, showing intricate and fascinating structures that scientists are still trying to fully understand.</p>		
		
<p>00:55        [Dr J]        Hi and welcome to the Hubblecast.</p> <p>In previous episodes, we've looked at a lot of Hubble's pictures of planetary nebulae, and we've talked about how they tell us about the ultimate fate of our own Sun.</p> <p>In this episode, we're going to take a closer look at just one of these — a planetary nebula that, unlike many others, doesn't in fact look anything like a planet.</p>		
<p>01:19        [Narrator]        Known by its catalogue number NGC 5189, this planetary nebula might not sound very exciting.</p> <p>When it was discovered in the 19<sup>th</sup> century, the telescopes of the day could barely make out any structure.</p>		
<p>01:40        [Narrator]        But advances in telescope technology over a century and a half have borne fruit. For a long time, the best image of this object was from the European Southern Observatory's NTT, which reveals NGC 5189's complex spiral shape.</p> <p>Then came a remarkable picture from the 8-metre Gemini South</p>		

<p>telescope.</p> <p>But if you point Hubble at it...</p>		
<p>02:11 [Dr J] Well if you point Hubble at it, you get to see some truly incredible detail, much of which has never been seen before. And that's of course due to Hubble's unique vantage point above the Earth's atmosphere.</p> <p>If we zoom in close, which we can thanks to Hubble's high resolution, then we start seeing these very dense knots in the clouds of gas.</p> <p>Hubble has seen these before, most famously in the Helix Nebula.</p> <p>Now what's going on here is that the radiation from the dying star is carving the knots into shape, forming these glowing bow-wave-like patterns, much like water flowing around a rock in a stream. And these are all pointing towards the centre of the nebula.</p>		
<p>03:02 [Narrator] The knots in NGC 5189 are a reminder of just how big planetary nebulae are. They might look insignificant here, but they are actually a similar size to the entire Solar System.</p> <p>The star at the centre of the nebula, a dense white dwarf, is far too small to see as anything other than a point of light, even though it is roughly the size of the Earth.</p>		
<p>03:34 [Dr J] NGC 5189's spiral shape is perhaps its most obvious feature, leading to its nickname, 'the Spiral Planetary Nebula'. The structure is reminiscent of water coming from a lawn sprinkler, and it's probably due to the star rotating and wobbling as it expels matter.</p>		
<p>03:54 [Dr J] Similar structures have been seen before, especially in planetary nebulae with binary stars at their centres, but whether there are two stars or just one at the centre of NGC 5189 remains an open question.</p> <p>And so its shape and the science that lies behind it remain a fascinating area for astronomers to study.</p> <p>This is Dr J, signing off for the Hubblecast. Once again, nature has surprised us beyond our wildest imagination.</p>		
<p>Ends 05:22</p>		