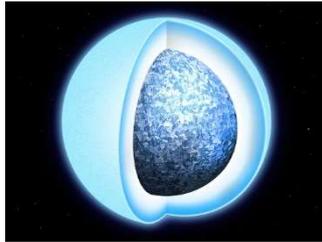


Stellar Metamorphosis: Comment on Thousands Of Stars Turning Into Crystals

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Abstract: I make some comments on a recent news article¹ about white dwarfs turning into crystals and what it may mean in Stellar Metamorphosis².

Quotes taken from: Thousands Of Stars Turning Into Crystals¹

Quote: *"The first direct evidence of white dwarf stars solidifying into crystals has been discovered by astronomers at the University of Warwick, and our skies are filled with them"*

-comment: this is not direct evidence they only observe atmospheres of white dwarfs, everything that happens internally is built on many assumptions and those assumption fuel their models. They should just report they observed a change (or evolution) in the spectra of the star/planet.

Quote: *"white dwarfs, have a core of solid oxygen and carbon due to a phase transition during their lifecycle similar to water turning into ice but at much higher temperatures"*

-comment: Again, we do not know what kind of core these objects have, we can not know if only surface phenomena are observed.

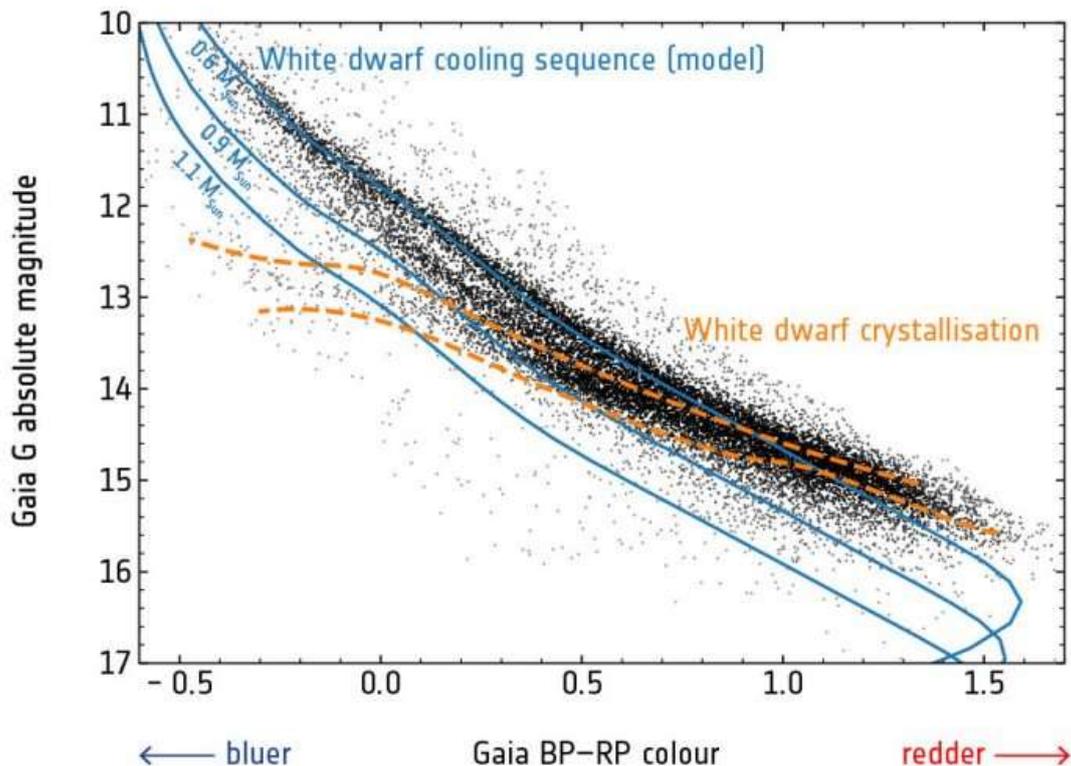
Quote: *"observations made by the Gaia satellite and analysed data on the stars' luminosities and colours"*

-comment: Confirmation they look at the star brightness and colours (spectra), that is the observation.

Quote: "When compared to evolutionary models of stars, the pile-up [*see figure 1] strongly coincides to the phase in their development in which latent heat is predicted to be released in large amounts, resulting in a slowing down of their cooling process. It is estimated that in some cases these stars have slowed down their aging by as much as 2 billion years, or 15 percent of the age of our galaxy"

-comment: Their evolutionary model for these objects is probably completely wrong [*see figure 2, at end of paper], but because the GAIA satellite works with such a large sample amount, the observations made can be relativized, a slowing down of a cooling rate -no matter the phase/age of the star/planet (astron)- is compatible with stellar metamorphosis, hot bright plasmatic stars cool rapidly, the older they get the slower the cooling, thus explaining the great ages of more evolved astrons in stellar metamorphosis.

*Figure 1, Pile-up:



Quote: *"This is the first direct evidence that white dwarfs crystallise, or transition from liquid to solid. It was predicted fifty years ago that we should observe a pile-up in the number of white dwarfs at certain luminosities and colours due to crystallisation and only now this has been observed"*

-comment: because the observation may be relative there is a possibility that somehow the data they gathered does hint to a certain evolutionary process in these objects, but going from liquid to solid in Stellar Metamorphosis happens in the ocean world and later stages (where the crust is formed and also diamonds in this crust). But white dwarfs are said to be stars with high temperatures, so what are these objects really?

Crystallize could also mean that this indicates (if the observation indeed says something about an internal process) that rocks and minerals are formed, like quartz which is a type of crystal. Oxygen is used to form rocks and minerals; that would explain why Oxygen is observed less in the spectra with greater age of the studied objects.

Quote: *"All white dwarfs will crystallise at some point in their evolution, although more massive white dwarfs go through the process sooner. This means that billions of white dwarfs in our galaxy have already completed the process and are essentially crystal spheres in the sky. The Sun itself will become a crystal white dwarf in about 10 billion years"*

-comment: crystal spheres and then? This is highly unlikely; what happens after they become crystals? My idea is that they made a mistake in classifying white dwarfs, this is the subject of a future paper on "white dwarf stars" in Stellar Metamorphosis.

Quote: *"We've made a large step forward in getting accurate ages for these cooler white dwarfs and therefore old stars of the Milky Way"*

-comment: In stellar metamorphosis old stars are planets... food for thought.

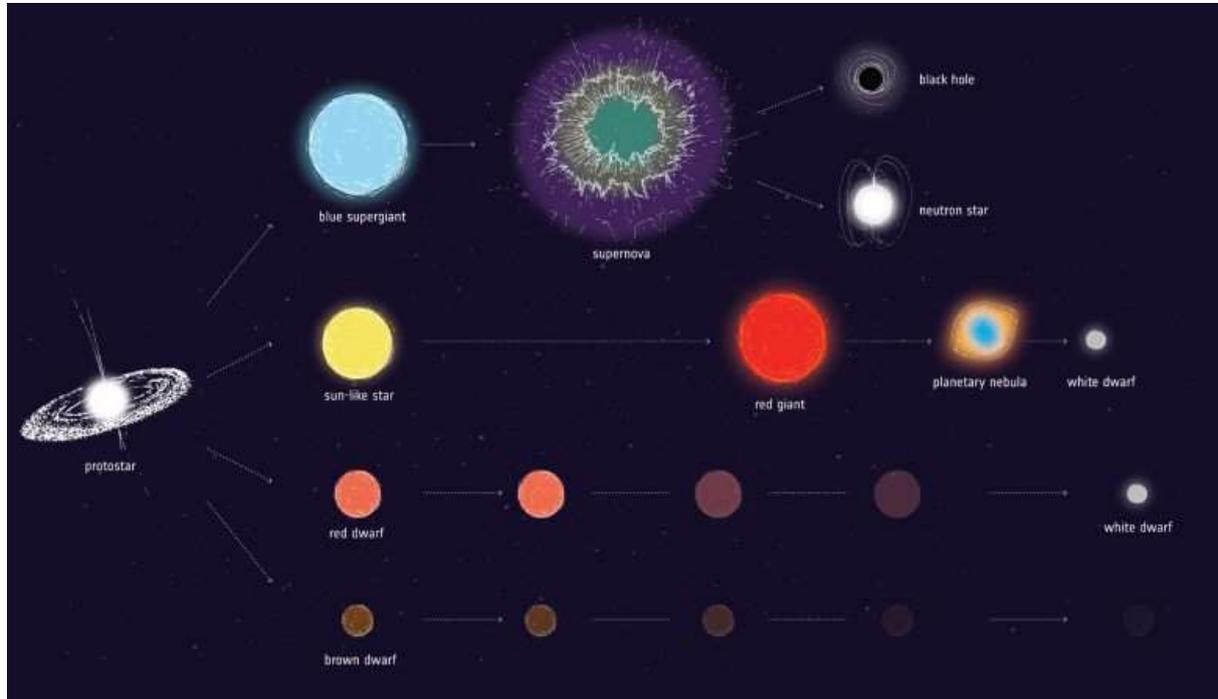
The news article was spurred by this paper: Core crystallization and pile-up in the cooling sequence of evolving white dwarfs³.

Quote from the abstract: *"In addition to the release of latent heat, we find strong evidence that cooling is further slowed by the liberation of gravitational energy from element sedimentation in the crystallizing cores"*

-comment: sedimentation in the core...interesting.

I could not access the paper, too bad, astronomy should have free papers so independent researchers can also review and or criticize the work.

*Figure 2 with original caption:



Artist impression of some possible evolutionary pathways for stars of different initial masses. Some proto-stars, brown dwarfs, never actually get hot enough to ignite into fully-fledged stars, and simply cool off and fade away. Red dwarfs, the most common type of star, keep burning until they have transformed all their hydrogen into helium, turning into a white dwarf. Sun-like stars swell into red giants before puffing away their outer shells into colourful nebula while their cores collapse into a white dwarf. The most massive stars collapse abruptly once they have burned through their fuel, triggering a supernova explosion or gamma-ray burst, and leaving behind a neutron star or black hole.

- Comment on figure 2: Mainstream astronomy has many possible pathways for the evolution of stars, brown dwarfs cool off and just fade away... where they go is not mentioned. Stars are always stars in their models, figure 2 shows the many weird ideas they have; there is no logic nor a clear natural evolution of stars. This natural evolution is evident with Stellar Metamorphosis, stars are born hot and big then cool and shrink and evolve into planets; this is simple and also logical.

This is author is sure 'white dwarfs' have a natural place in Stellar Metamorphosis as it is observed they are also evolving systems, as said this place will be the subject of a future paper.

References on last page.

References:

- 1) Thousands Of Stars Turning Into Crystals, Source:
<https://archaeologynewsnetwork.blogspot.com> , direct link,
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- 2) J. Wolynski, 2012, Stellar Metamorphosis: An Alternative for the Star Sciences,
<http://vixra.org/pdf/1205.0107v9.pdf>
- 3) Pier-Emmanuel Tremblay, et al., 2019, Core crystallization and pile-up in the cooling sequence of evolving white dwarfs, <https://www.nature.com/articles/s41586-018-0791-x>