Internal Work to Heat Efficiency Principle of Stellar Metamorphosis

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Abstract: In this paper it is explained that the efficiency of internal work to heat transfer increases as a star evolves. Explanation is provided.

The general theory of stellar metamorphosis states that the heat of a star is produced by the star gravitationally collapsing, thermochemical and electrochemical processes not nuclear fusion. As well, planets/exoplanets are evolved stars that no longer shine with their younger intensities. Ancient stars produce much less heat than their younger counterparts, so the majority of the work that is done to the body is conserved more highly than when the star is younger. The majority of the work done on young stars escapes the star as heat, light and different forms of electromagnetism, as well as physical excess exiting the star as is the case of coronal mass ejections and flaring. The energies for the material mechanical exit from the star and large amounts of electromagnetic wave production are provided by the star itself, which means it is not being efficient at collapsing. The efficiency of collapse increases as the star cools. It would be similar to Top Fuel dragsters. The faster the combustion and amount of fuel needed are inversely proportional. The majority of the energy of the fuel and the fuel itself is not even used to propel the car. Its shot out of the exhaust and lost to heat production. Same goes with stars when they are young. The majority of the gravitational potential energy is lost due to mass ejections and EM radiation.

The efficiency of the work done on the star increases as it cools and dies, meaning the heat and mass loss per unit volume will decrease significantly as well. Using the same above example, a Top Fuel dragster's engine scaled down to the authors 1.5 liter engine, would be a huge increase in efficiency, regardless if there is still losses to unburned fuel and heat production in the smaller engine. In essence, the star becoming smaller lengthens the lifetime of the star. Not only that, but heat loss is prevented by the presence of significant amounts of material that has a very high specific heat capacity which builds up in the atmosphere such as hydrogen gas (as opposed to hydrogen plasma). This means that not only does the star become more efficient at transferring the work of gravitational collapse to the material (instead of losing it to CMEs, flaring and shining), its lifetime increases significantly because the heat being produced by the work has a difficult time escaping, either through radiative or convective effects. This leads the author to the conclusion that the majority of gas

type stars claimed to be “ice giants” as is the case of Uranium and Neptune are not cold ice giants. They are very old stars, much older than Jupiter and Saturn, but younger than Earth, and they have hellish interiors. Uranium and Neptune’s efficiencies are on par with taking a 1.5 liter engine and utilizing the heat produced by the engine to power additional features, so that less heat goes to waste.

For the sake of argument, it could be mentioned that the efficiency of a young star doing work on itself and losing that heat and mass to interstellar space is around 1%. Young stars are very, very inefficient. As the star cools and collapses, the efficiency of the work done on the star increases, to about 30% during red dwarf stages. During brown dwarf stages the efficiency would be about 55%, and grey dwarf stages about 70%, blue dwarf about 90% and then ocean world at 95%. The efficiency of the work done to the mass of the star to transform it without losses increases past 99% when in mid-ocean world stages, until finally the star can no longer lose significant amounts of mass and energy by its own accord. It is reasoned that the life window is when the star prevents the majority of mass loss in any significant portion because of the gravity principle of life formation. The gravity is now strong enough to prevent most mass and energy loss, and the newly formed molecules cannot escape. The gravity principle also applies to asteroids, where the gravity is also not strong enough to prevent the escape of newly formed molecules which are the precursors to the formation of life.