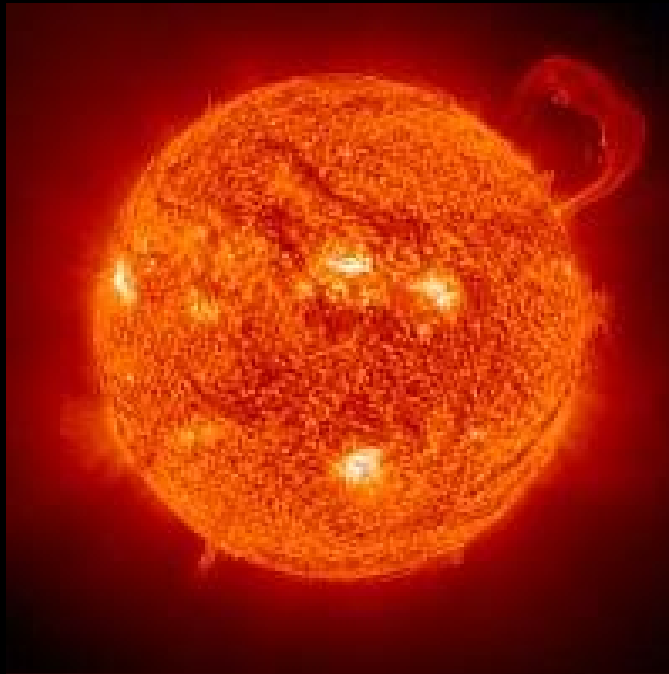


Nebulas recycle elements to space



Protostars form as gas clouds collapse



If they heat enough to fuse H to He, 15 million C, they enter the main sequence

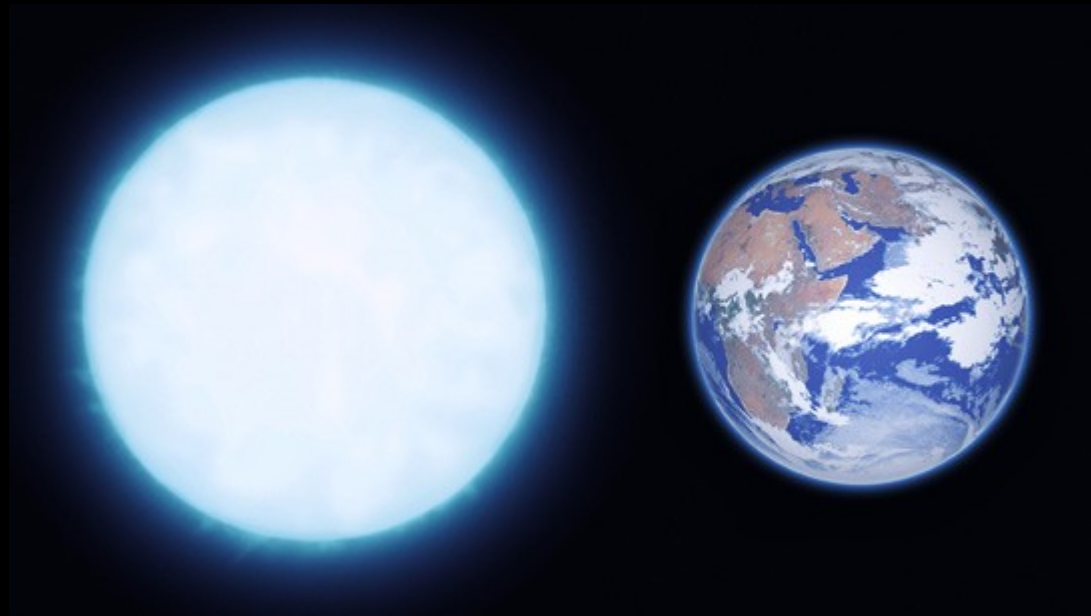


When the core runs out of H and begins to fuse He to heavier elements, stars become Red Giants

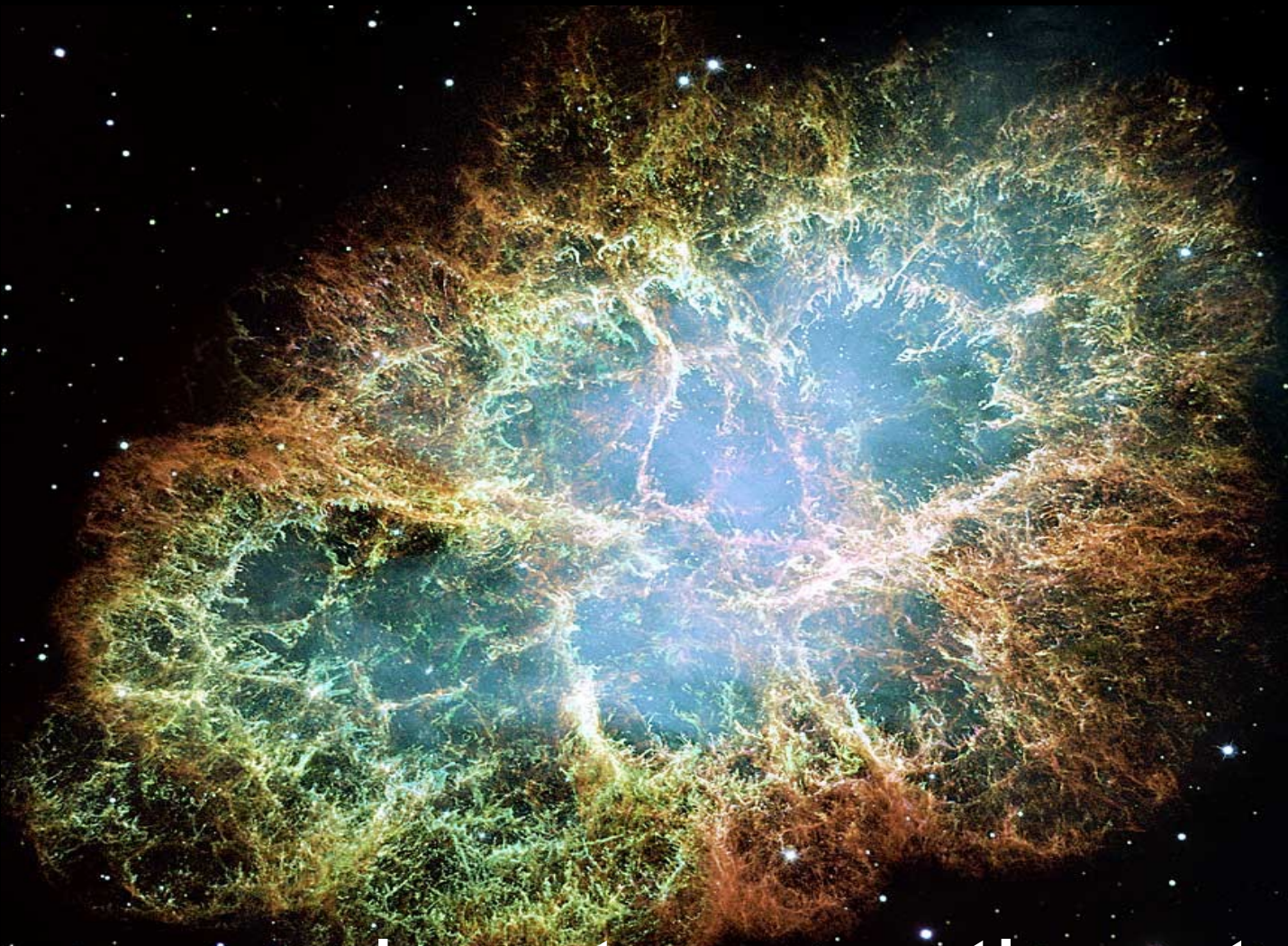


Red Giants eject a planetary nebula when they shed their shells. This leaves behind a white dwarf.



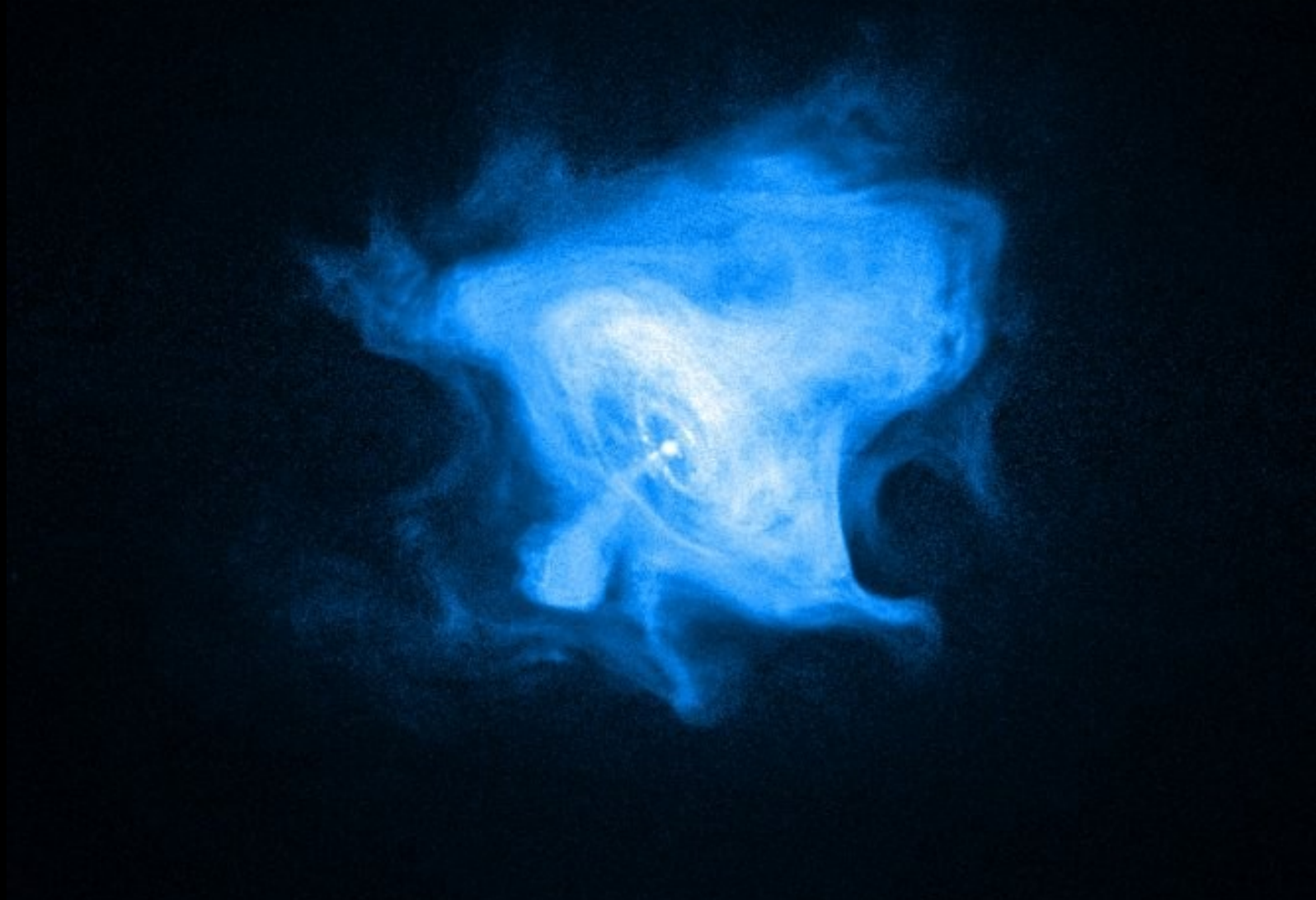


White dwarves are very small for stars, but very hot. They die when He is used up



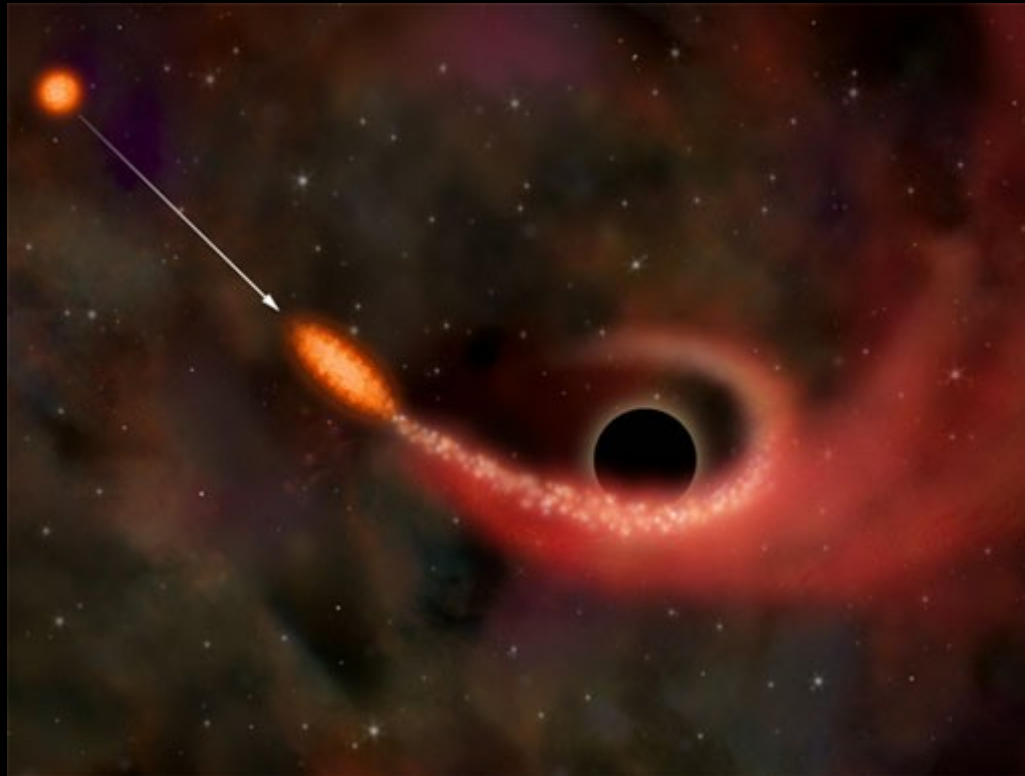
More massive stars continue to fuse  
C into heavier elements up to Fe  
then they explode leaving a nebula  
behind cycle starts over



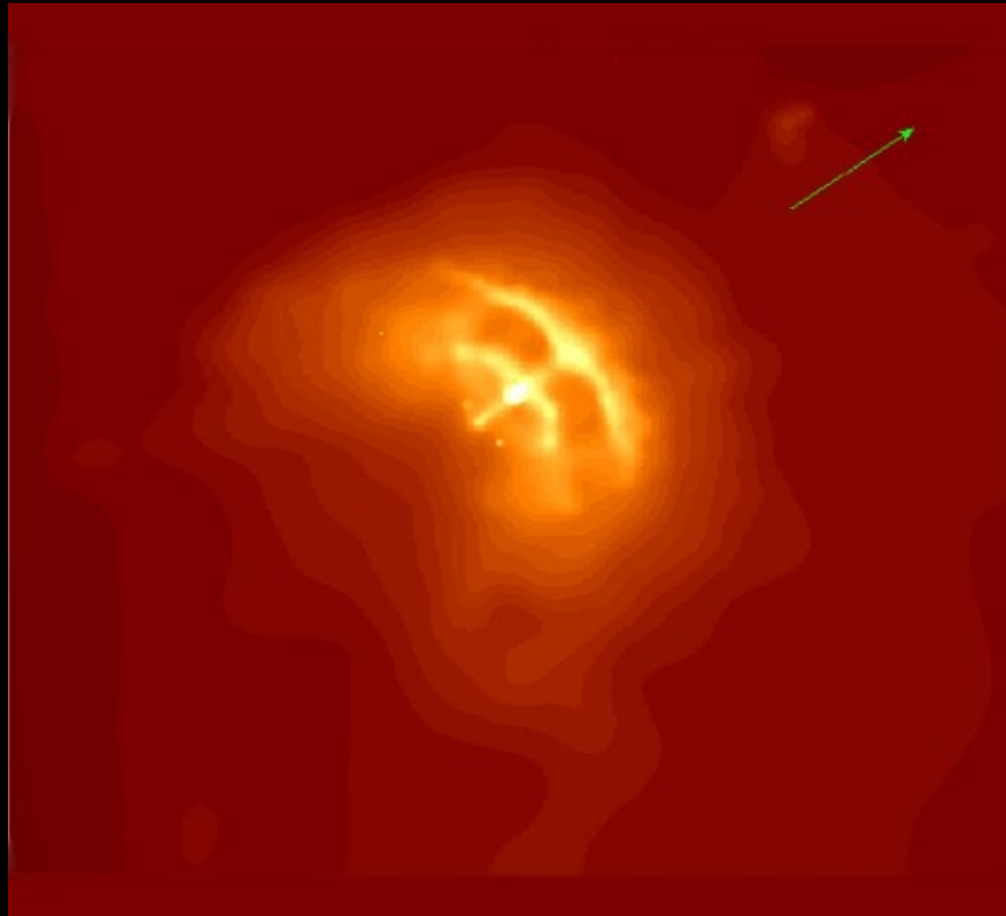


After a supernova, small cores become pulsars shooting out jets of x-rays.





If the core is  $> 8$  solar masses the core collapse into a black hole who's gravity can eat nearby stars.



After supernova stars with mass less than 8x our sun may end as neutron stars or even a pulsar.