

Greatest Overlooked Idea of Modern Astronomy - Stars Cooling Down and Becoming Planets (Stellar Metamorphosis)

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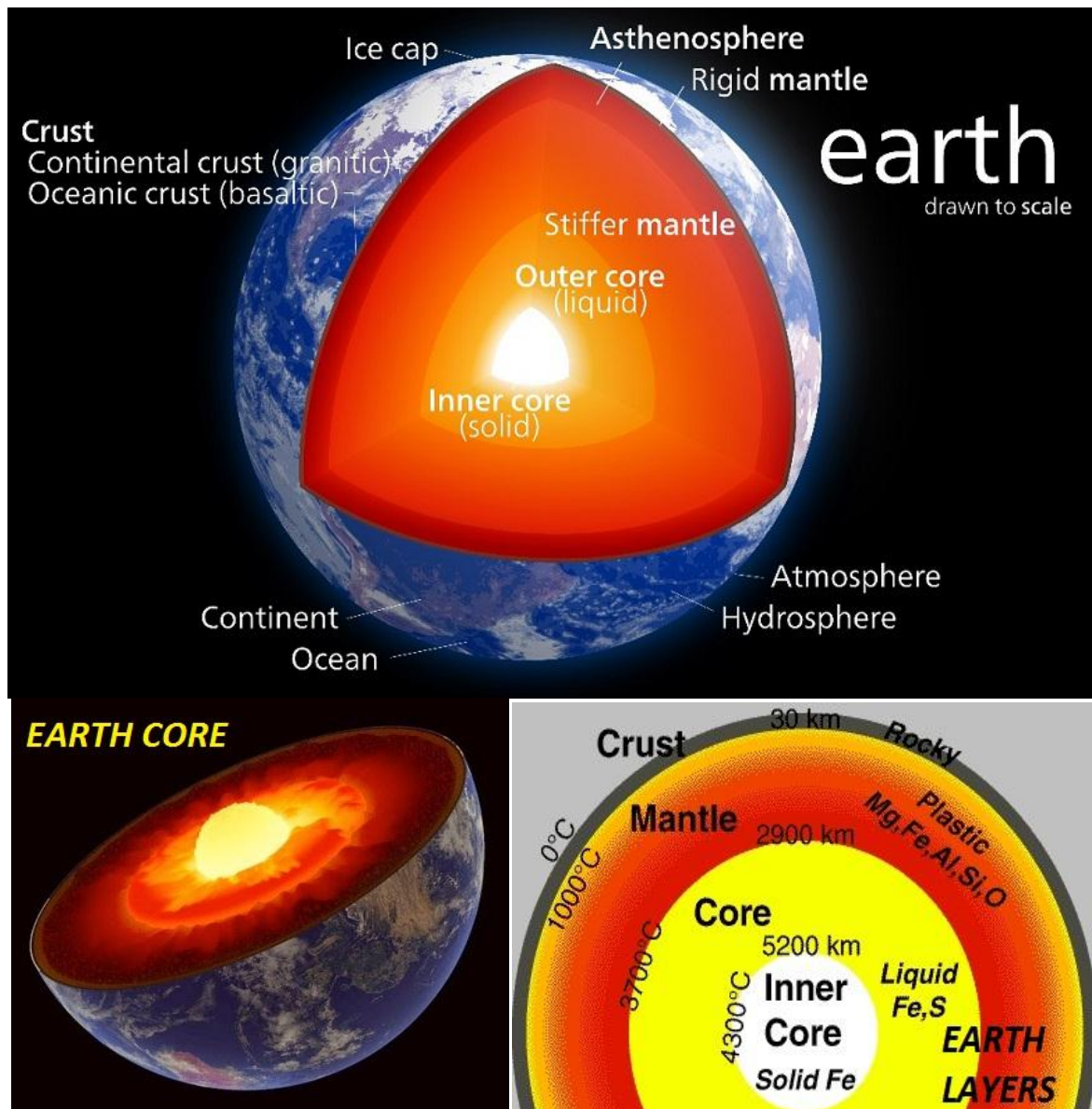
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Sydney, Australia

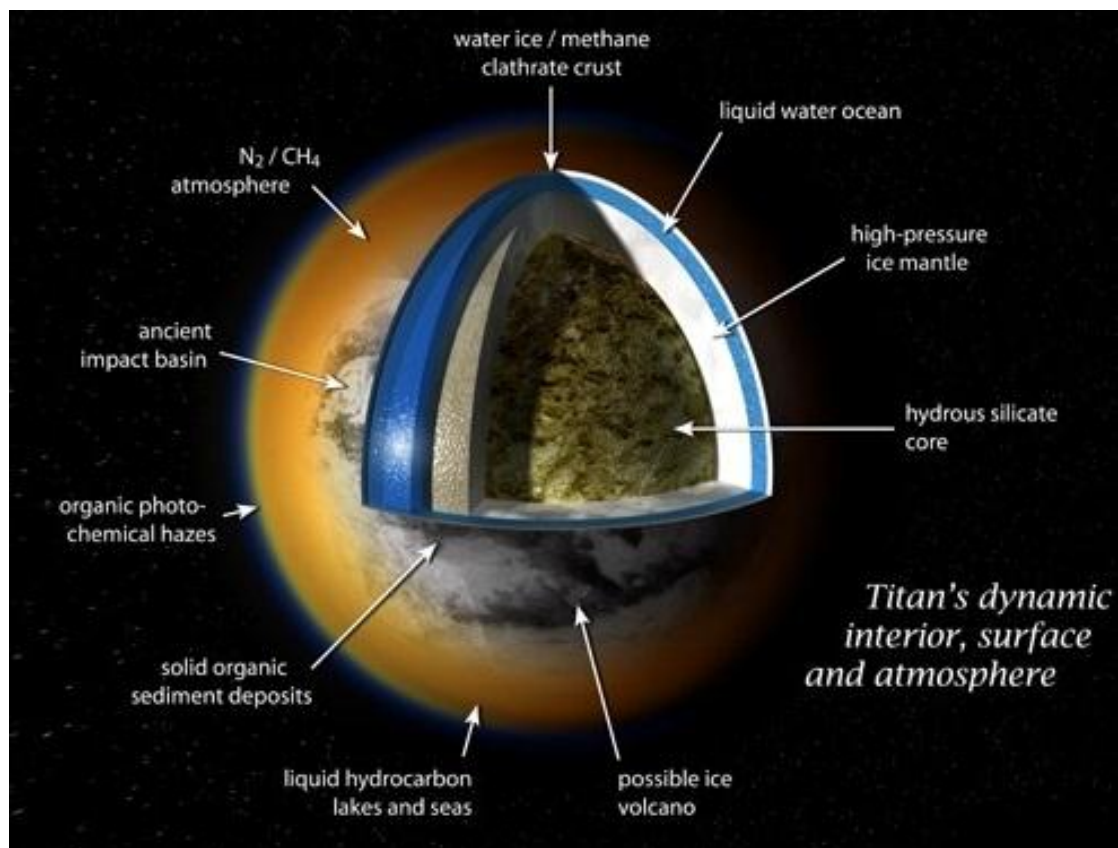
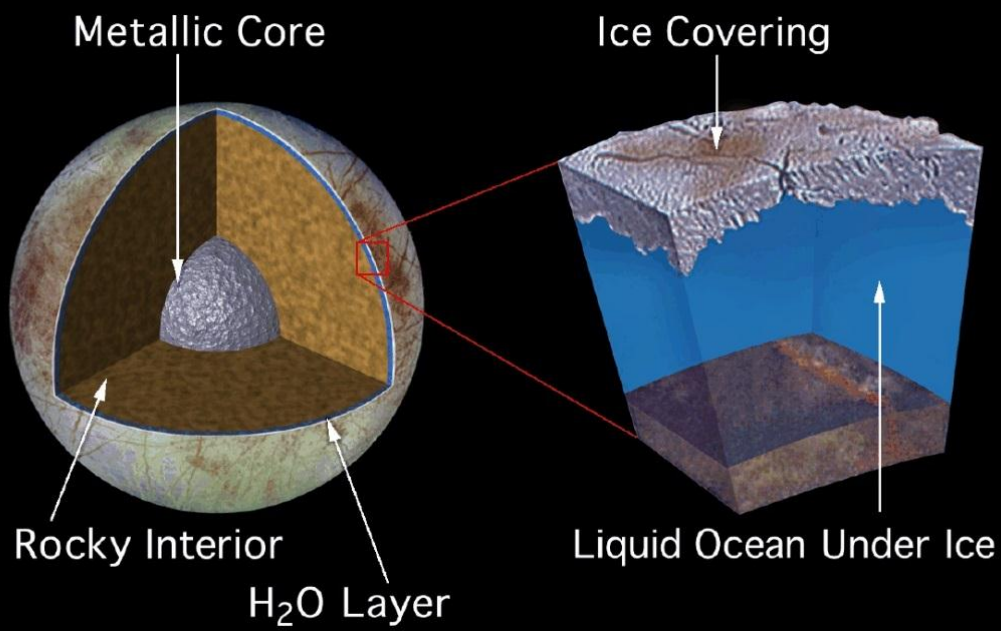
Abstract

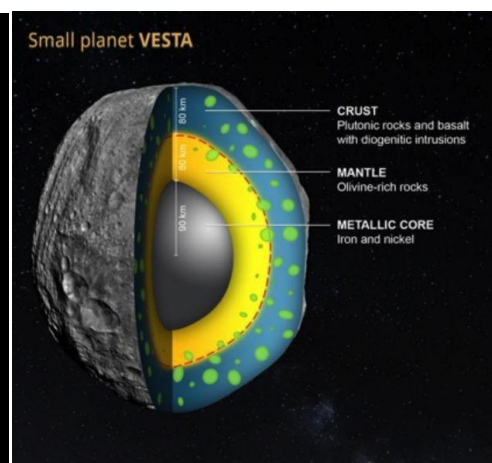
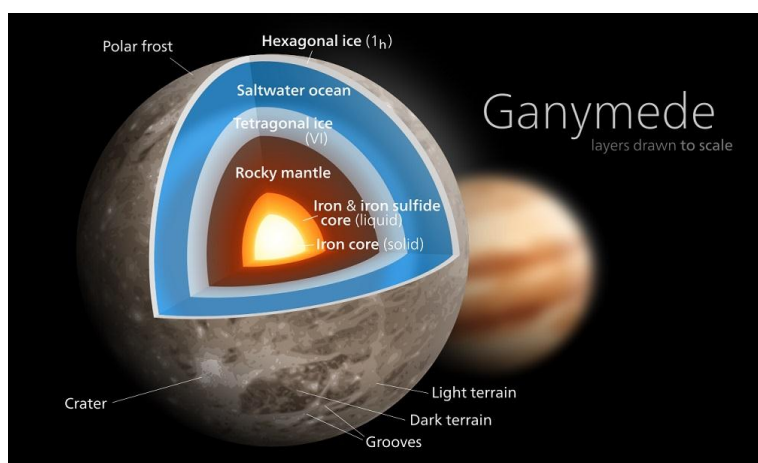
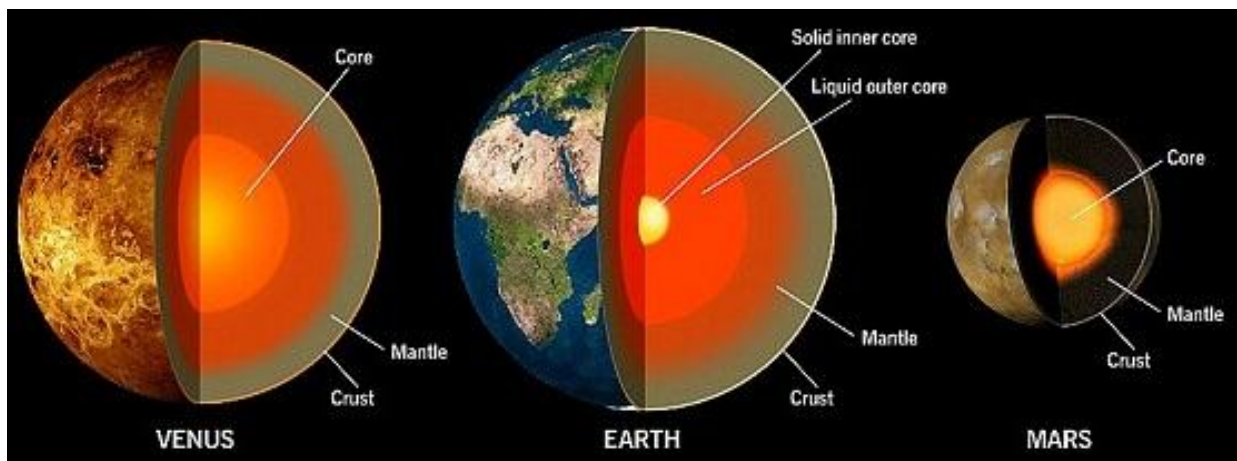
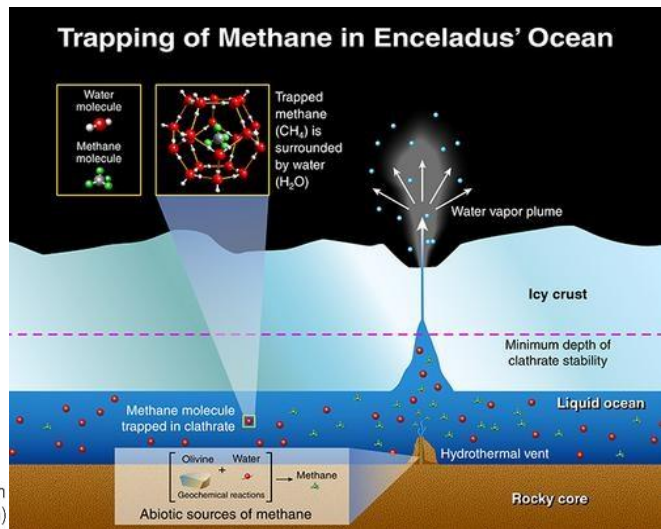
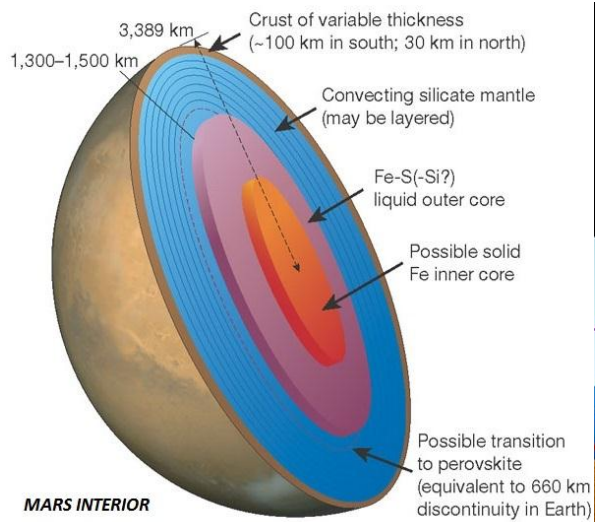
Modern astronomy proposes its planet formation theory with highly questionable assumptions as the basis for formation of planets (in the form of accretion disk model of protoplanetary disks). It also proposes models (again using questionable assumptions) for the stars nearing the end of their lives (which share similar internal structure to all the planets in existence) to end in either explosions (supernovae) or becoming Black holes, Neutron stars or Dwarf stars. Another more rational explanation on how planets form has been provided first by Anthony Abruzzo expanding on Descartes's original Idea of stars transforming to become planets by a series of papers followed by a comprehensive explanation by Jeffery Wollynski in the form of his Stellar Metamorphosis theory. Stellar Metamorphosis theory provides detailed explanation of the actual mechanics of how this process takes place step by step. Some additional observations are offered in this paper on the mechanism of the process of planet formation by Stellar Metamorphosis as well as some new ideas on the question of why planets stay at similar temperature ranges over millions of years despite continuously cooling during the evolution/propagation of life, observations on the comparison of relative mass of a star during its transition from star to a planet and some thoughts on the nature of space and time.

I will start by comparing what we currently know about the internal structures and compositions of planets and planet like bodies with the compositions of stars nearing their ends (including theories regarding their end phases). All of this is currently accepted observations by the mainstream astronomers.

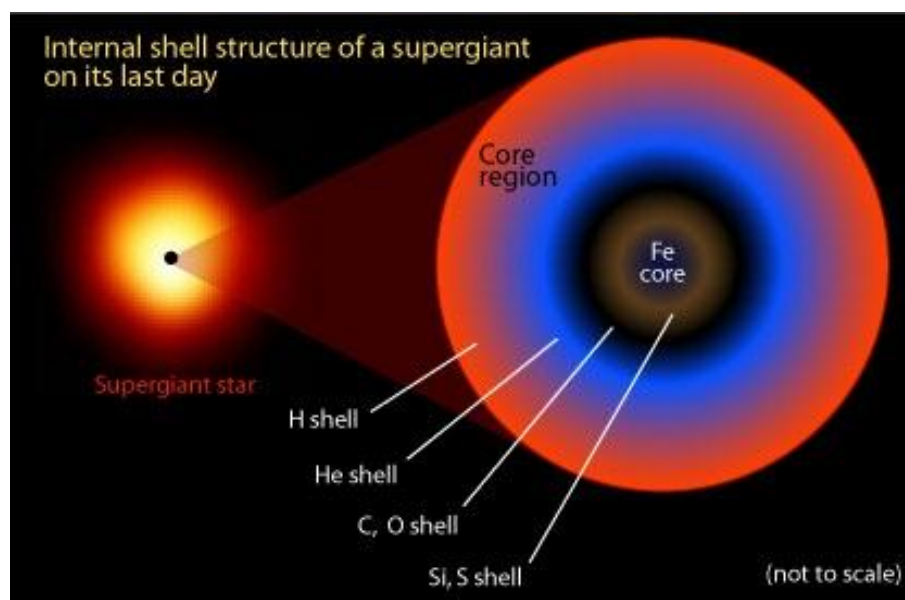
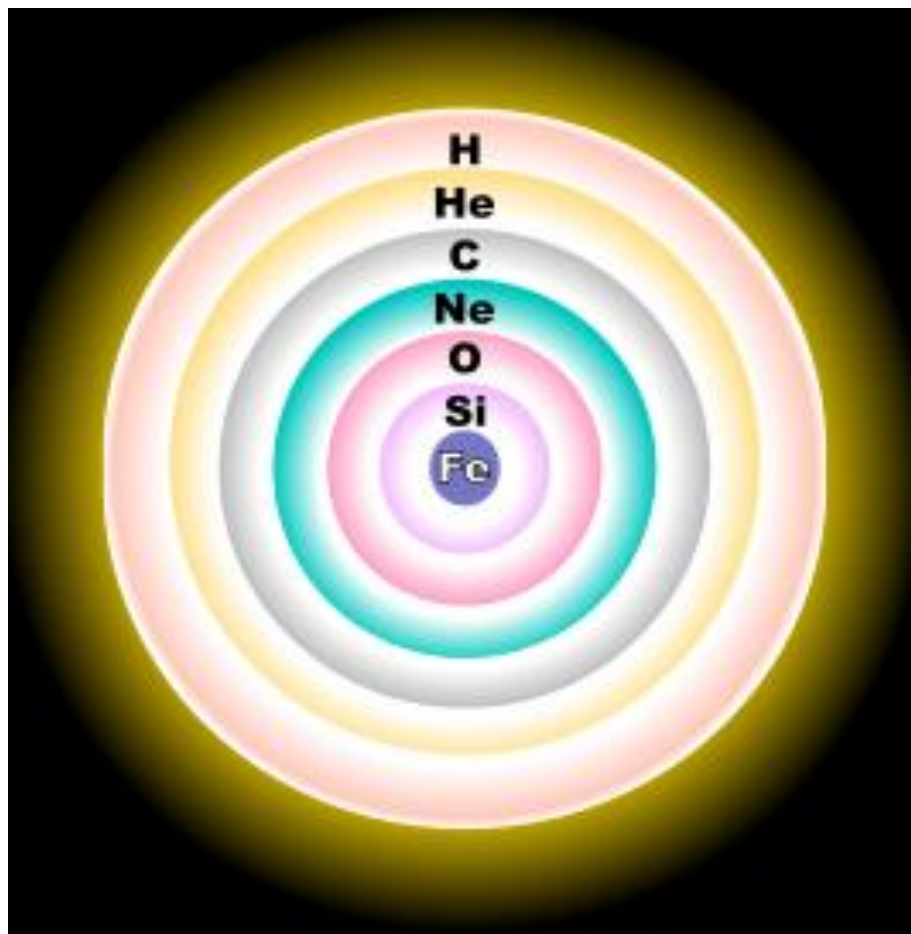


EUROPA'S INTERNAL STRUCTURE





Pictures showing the internal structures of stars nearing the end of their life's as per accepted mainstream astronomy theories.

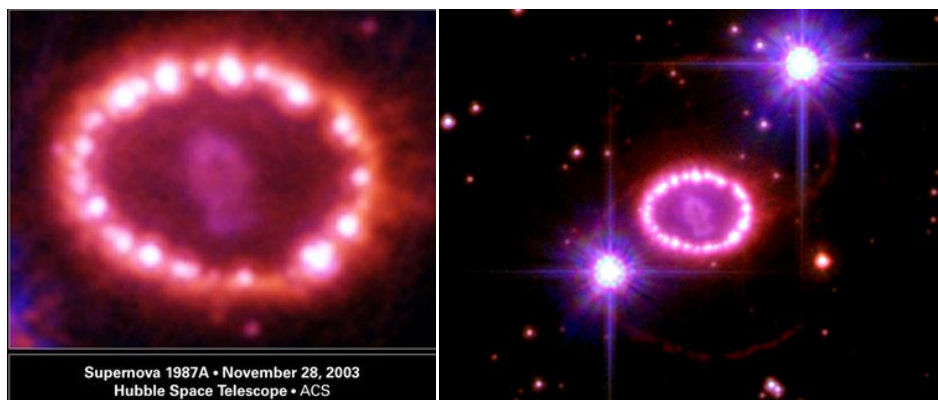


Now this is what the mainstream astronomers thinks happens to it in a supernova

Progression of a Supernova Explosion



And what they show us as evidence of supernova explosions in close-up photos of Hubble telescope are birthing galaxies (seed galaxies), some of them still showing the shockwaves of electromagnetic process of their formation, and trailing behind on both sides. An explosion in a normal sense wouldn't have this signature but theoretical solutions have been invented to account for this kind of explosions.





If we compare the above so called “supernova explosions” with the below image of *Galaxy NGC 1097* from NASA's *Spitzer Space Telescope* we will immediately recognise that the core engine of galaxy share the same structure as the birthing galaxies above consisting of a ring of hot plasma rotating around its centre and creating strong electromagnetic forces in the process as explained in my *viXra* paper “A New Explanation on the Workings of Central Core Regions of Galaxies and Observations on the Nature of Fundamental Particles of Nature”

<http://vixra.org/abs/1510.0513>



Above image from NASA's *Spitzer Space Telescope* of Galaxy NGC1097

In other cases of star's having different masses, they are hypothesised to transform themselves into (depending upon their mass) a black hole, a neutron star or a dwarf star upon the end of their lives(these entities are assumed to exist based purely upon theoretical and mathematical model predictions).

And then mainstream astronomers have to invent the hypothesis of accretion disk model of protoplanetary disks in order to explain the formation of planets and this hypothesis is laden with many questionable assumptions and invented mathematical/theoretical concepts in order to plug many holes of its inconsistencies. Jeffery Wołynski in his paper *"Main Concepts for Explaining Star Evolution (Planet Formation) According to the General Theory of Stellar Metamorphosis"* debunks many of the basic assumptions of protoplanetary model and the readers are advised to go through that paper to understand many of the shortcomings of protoplanetary model.

In protoplanetary model the planet formation is considered to be the result of gas cloud coalescing together and forming a planet after the star formation in the centre of the accretion disk by similar process. This is highly problematic on many fronts as it relies on many assumptions, does not explain what we see in a clear rational manner and has many contradicting observations not explained by this theory. The idea that some gas could clump together and form a structure as intricate as any planet with its almost perfectly round shape and differentiated layers is difficult to believe compared to the idea that a cooling star with perfectly similar internal structure to a planet and having similar gases in its atmosphere cools down to become a planet. See below comparisons of chemical compositions of sun and atmosphere's of other solar planets

Sun	74% hydrogen to 24% helium
Jupiter	80% hydrogen to 20% helium
Saturn	75% hydrogen to 25% helium
Uranus	82% hydrogen to 15% helium
Neptune	74% hydrogen to 25% helium

The protoplanetary model fails to address the angular momentum problem and also cannot explain retrograde orbits even though vague theoretical solutions have been offered to address those issues.

It also cannot explain why different types of bodies(like gas giants Jupiter/Saturn, Earth/Mars type planets with thin atmospheres and rocky Moon/Mercury type bodies) form from the same gas cloud and have different characteristics like magnetic fields, atmospheres and compositions.

Protoplanetary model proposes that the iron Nickel cores of planets and moons formed by an hypothetical process known as 'Iron catastrophe' where after heating up and melting, all the material inside the planet differentiated itself and settled in neat layers as we see today. Iron catastrophe is a purely made up theoretical concept and is hard to believe considering we see similar internal structures inside ageing stars which if given enough time to cool will easily explain their formation.

Different planets in our solar system have cores at different temperatures (some of them with cooled solidified cores) and we know that it will take a very long time for the core of a planet to cool down and solidify, therefore It will be nearly impossible to explain solid differentiated cores of bodies like moon, Titan etc. (assuming these bodies formed at the same time from the same gas cloud in our solar system and after heating, melting, iron catastrophe and cooling of core's to form solid interior in the same amount of time as per protoplanetary model).

This model also fails to explain how water came to exist on earth and vague solutions like icy meteors bringing water from outer space on earth have been proposed. Water is also found to exist on many other solar system bodies (Titan, Europa, Enceladus, Ganymede etc) in their inside layers which cannot be explained using this model. Stellar metamorphosis theory explains water formation on a cooling star (planet) in detail using chemical reactions to explain it and has evidence all around the solar system with planetary bodies in different stages agreeing with its predictions (e.g. Neptune, Uranus, earth, mars etc having different quantities, phases and layers of water can be easily understood using the process of stellar metamorphosis)

It would have been much simpler and rational for astronomers to link the evolution of stars with formation of planetary bodies in order to explain the observed facts of nature. But this would require a major overhaul of mainstream accepted theories about Big Bang, expanding universe and the age of the universe as the process of star's cooling to become planets will take much longer than the currently accepted age of the universe at 13.7 billion years. This change when accepted will revolutionise the field of astronomy and we will be able to rationally explain most the observable universe without invoking assumption laden theoretical & mathematical explanations (Theoretical concepts like dark matter, dark energy, singularity, worm holes etc won't be required to explain the observable universe then). Astronomy would take a giant leap forward.

A brief discussion on the nature of protoplanetary disks, circumstellar disks or accretion disks which are basically a circular disk field of dust and debris around a star system. These fields are assumed by astronomers to be the places where stars and planets form by nebular hypothesis.

First we consider the following two assumptions based upon the observed nature of universe and assuming universe to be a lot older than big bang time scales (13.7 bill yrs easily falsified by extremely lengthy cooling times required by stars to form planets etc).

1. Interstellar\Intergalactic space contains large amount of material ranging from micro sized dust particles all the way to full size planets (cooled stars) and all sizes in between (products of collision events over a very long period of time - far longer than the big bang 13.7bill Yrs. Time scales) .

2. The Sun and other stars moving through space exert gravity and are capturing objects coming in their way as they move through space as there is no boundary around the solar system that can stop that capture from taking place.

It follows from this line of reasoning that the kuiper belt of solar system is a result of this type of capture of objects by the sun as it moves through space. No hypothetical Oort clouds are required to explain kuiper belt or the asteroids entering solar system. It also follows from this line of reasoning that a young star system like sun will have a relatively smaller kuiper belt (size~30-55AU) whilst fully grown kuiper belt of a star nearing its end would be relatively large (as has been observed to be ~2000AU in the case of HR8799) Any Star system moving through space will be like a giant vacuum cleaner sweeping objects in its way by the force of gravity. The large sized disks formed as a result of this are mistaken by astronomers as protoplanetary disks, circumstellar disks or accretion disks. These fields are basically a circular field of dust and debris around a star system captured through gravity over time and the planets found among that disk won't be a proof of nebular hypothesis as those planets were either already there to start with or captured by the star system.

The process of formation of kuiper belt will go through a period of accumulation first and mature and then will start decaying in size as the star loses gravity as it shrinks. The relative size of kuiper belt and knowing whether it's in accumulation or decay phase might give us a good clue to the relative age on the spectrum from birth to red dwarf stage and it would be feasible to develop computer models to date relative star ages during its plasma phase based on this data.

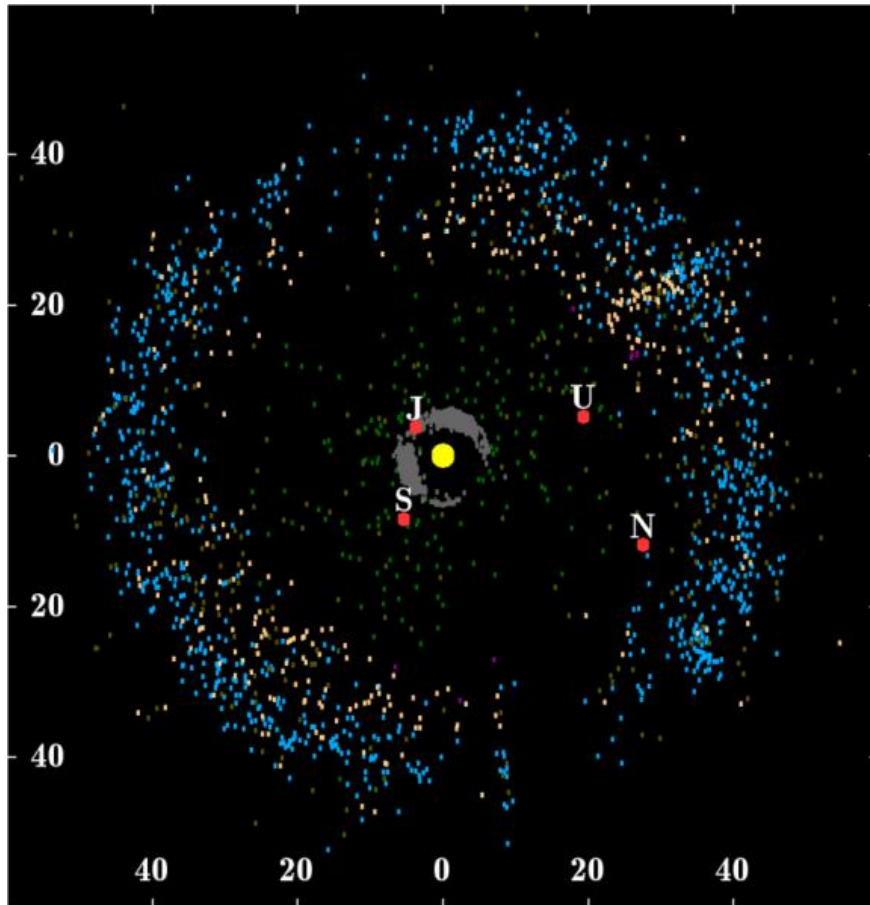
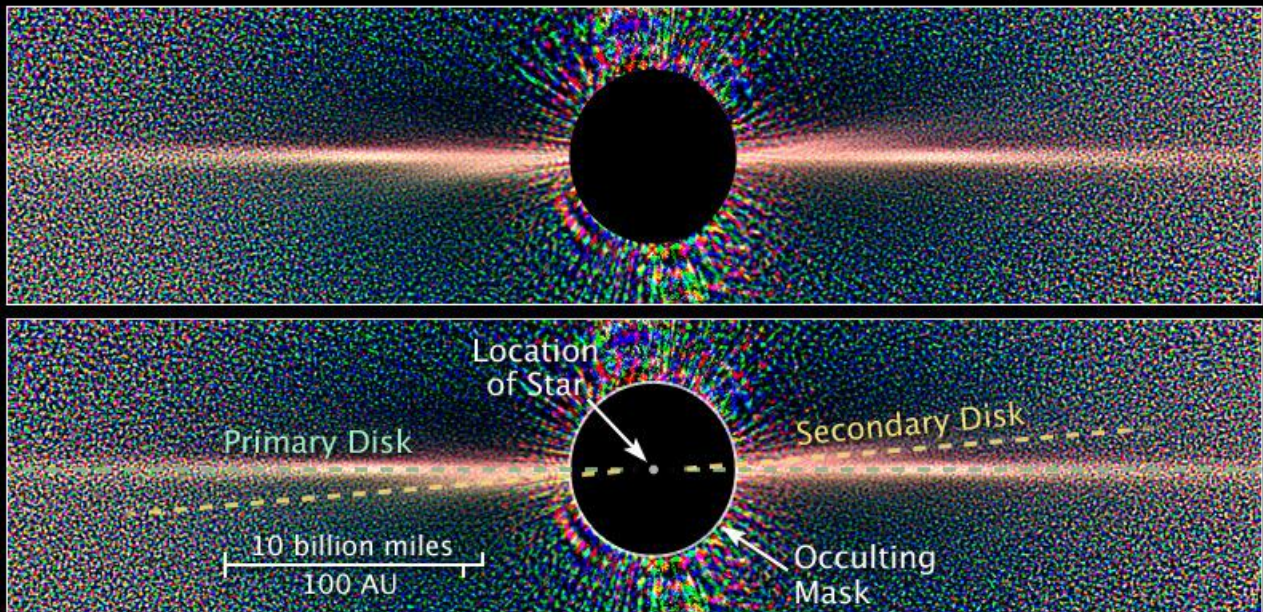


Image - Known objects in the Kuiper belt beyond the orbit of Neptune.

Beta Pictoris

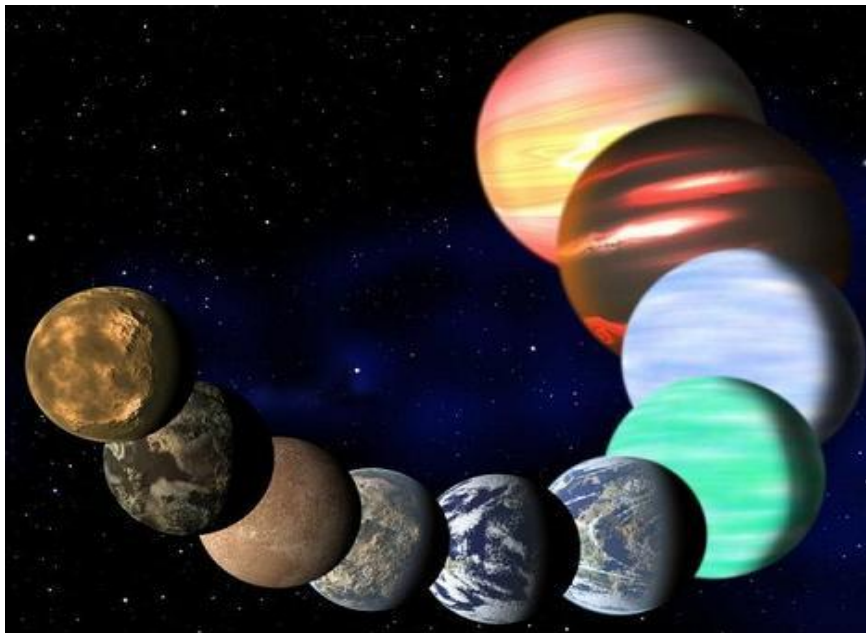
Hubble Space Telescope ■ ACS/HRC



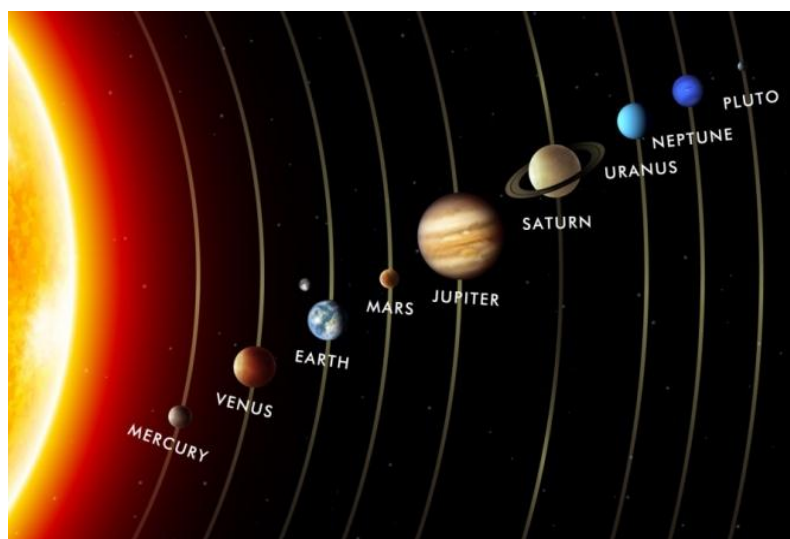
NASA, ESA, and D. Golimowski (Johns Hopkins University)

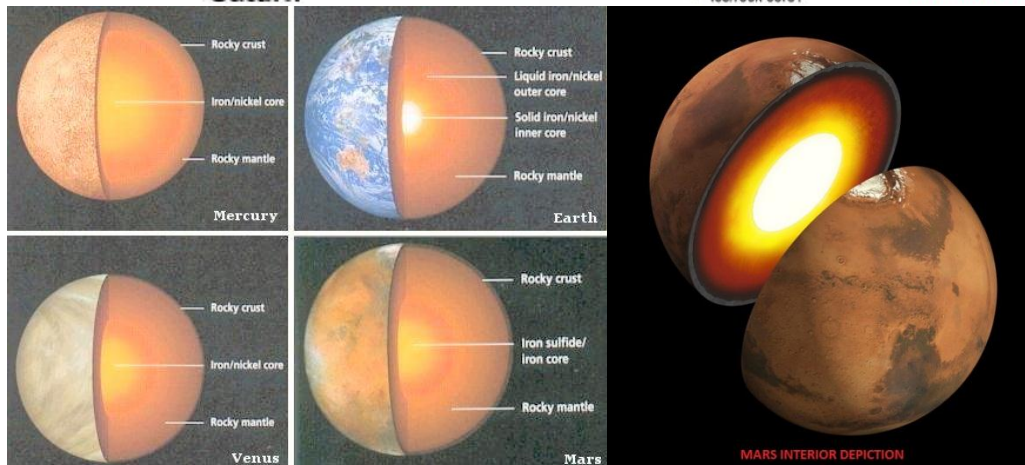
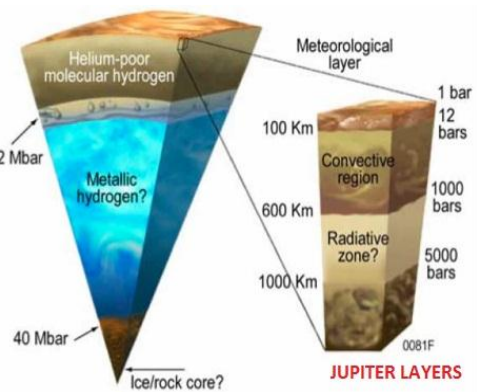
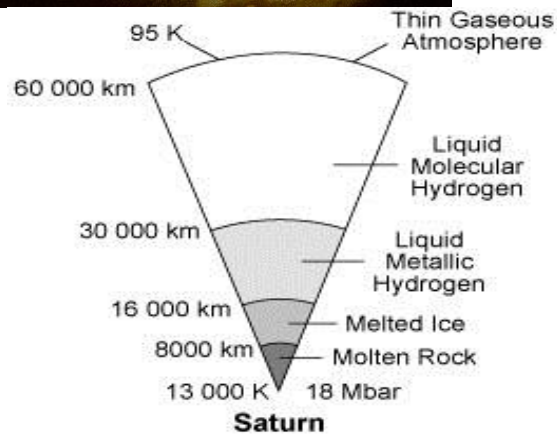
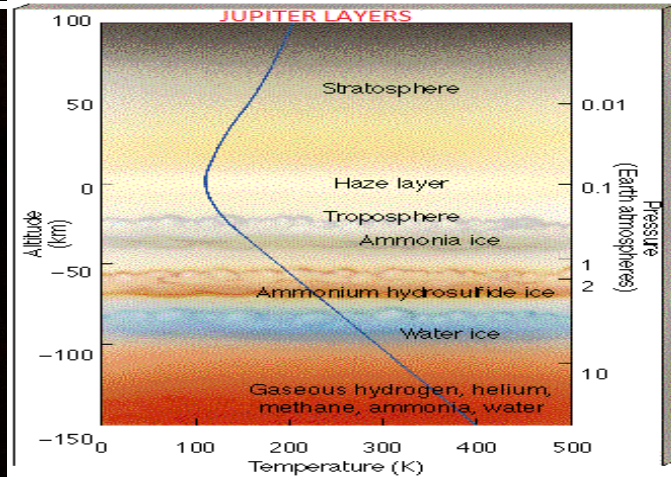
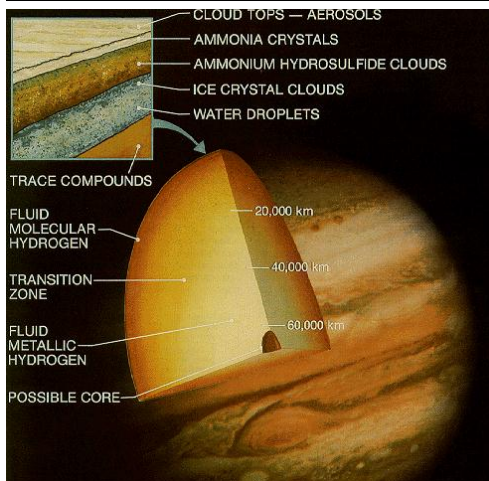
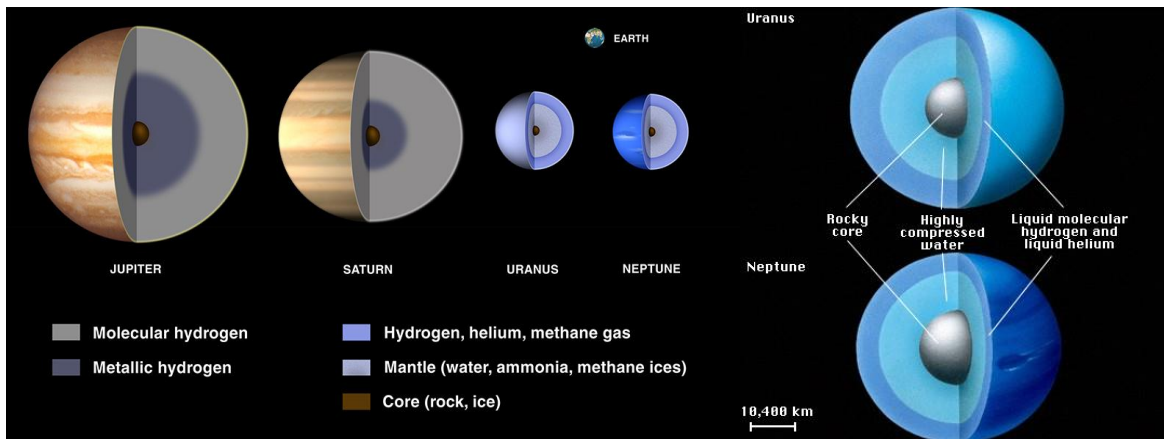
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On the Mechanics of the process of a cooling star



As the star cools to planet stage its plasma has mostly recombined to form the elements (consequently it no longer shines). It has mostly differentiated molten material at its core and its outer layers mostly contains gaseous material like Hydrogen, Helium, Oxygen, Nitrogen etc. and there is turbulence related phenomenon in these gaseous layers(e.g. Jupiter's Red spot). As it cools further chemical reactions (mainly exothermic) are taking place starting to produce molecules like methane, water, ammonia and other chemicals in its interior. Jupiter might be a good example of this stage of a star and its different coloured bands probably represent different chemicals being produced.



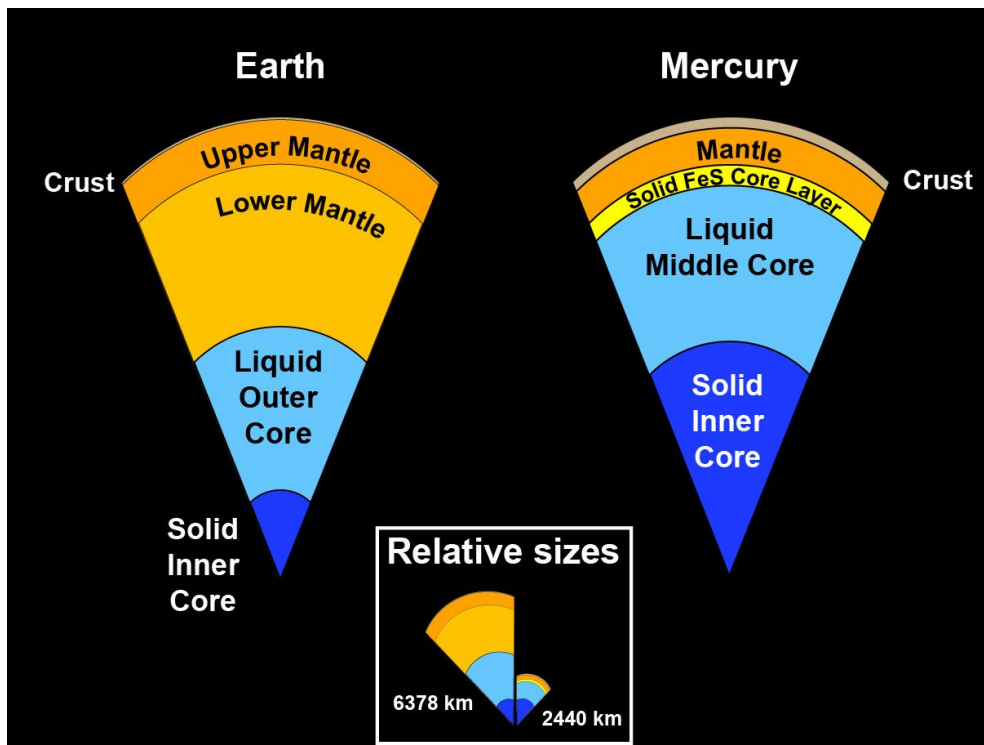


As it continues to cool (e.g. the processes that Neptune and Uranus are undergoing at present) it stratifies by having gases getting condensed to form liquids (water, methane etc.) in the outer most layers of the solid core resulting in cooling and formation of the crust. Some of the chemicals of outer layers will get mixed with inner layers as turbulence levels are extreme and will get trapped as it cools and solidifies. The increase of temperature/pressure in trapped layers will further change the chemistry of many molecules - formation of long chained hydrocarbon molecules from trapped methane being an example. As the star/planet cools further it loses its thick layer of atmosphere slowly. As it continues to lose its gases (Hydrogen, Helium, Methane) its atmosphere starts thinning and also evaporation causes loss of surface liquids by this process. There was more water on earth in earlier phases than now and the earth's water constantly recirculates through its atmosphere via evaporation. During this cooling process life forming amino acid molecules are being produced in the cooling planet as shown by Miller-Urey experiment. These amino acids will evolve to form some type of self-replicating molecules (Life) kick-starting the process of life which we still have to fully understand in regards to its mechanism. At some stage the cooling planet would resemble like our planet forging life on the surface if it was lucky enough to be orbiting another star within habitable zone during that process.

However if the cooling planet was not orbiting another star during its cooling process, it will continue to shed gases until only solid layer remains on top (which could be frozen gas like methane as well). If a star cools without orbiting another shining star it will cool to a stage where all its gases are frozen and will remain in this stage (but it still is getting eroded at the surface very slowly by asteroid/meteor bombardment) until it gets captured by another star in its orbit through gravity which will kick-start the evaporation of its gases and liquids forming an atmosphere again.

(Note - This process raises another interesting question namely would life evolve if this capture/kick-start of atmosphere takes place while the iron/nickel core of the planet was frozen losing its magnetic field. Life forms on earth highly immune to radiation exist and they would have the capacity to evolve in a high radiation environment. Saturn's moon Titan is an interesting example - As per Cassini spacecraft's data it has atmosphere made of mainly Nitrogen gas with Methane/Ethane clouds and also liquid oceans of methane/ethane on the surface of Titan, its weather system consisting of possible clouds/rains of methane and ethane in its atmosphere, it also has further layers of

water below methane\ethane followed by solid silicates – It would be interesting to speculate on what would happen to it if it gets captured by a another star in a habitable orbit.)



The appearance of life on a planet will be followed by its extinction as the habitable atmosphere as well as surface liquids are lost slowly and also the iron core is solidifying slowly reducing its magnetic field. After the loss of its atmosphere its erosion of top layer by bombardment with meteors will accelerate and continue. Planets like mercury have iron core the size of earth but its diameter has been reduced greatly by this process of erosion over possibly hundreds of billions of years. It will eventually grind itself out by this process of erosion or will collide with other objects producing dust, asteroids and other objects that we find in space. Fragments of its core material after collision events etc becoming space debris would explain why we find asteroids made of perfect crystalline Fe/Ni materials which we otherwise cannot account for as these objects cannot form by themselves in space in that configuration in isolation. Later all this scattered debris materials will become part of recirculating material getting converted back to Hydrogen and Helium gas in radio galaxies completing its lifecycle and kick-starting another cycle of galaxy formation in the gas clouds so formed. (Refer to my viXra paper "A New Explanation on the Workings of Central Core Regions of Galaxies and Observations on the Nature of Fundamental Particles of Nature" for a detailed explanation of this process <http://vixra.org/abs/1510.0513>)

On the question of why planets stay at similar temperature ranges over millions of years despite continuously cooling during the evolution and propagation of life periods.

This is due to following five reasons mainly.

One... The process of cooling of stars to form planets is a very long process (relative to life forming time scales) that it is difficult to even imagine in human timescales. This process will likely take many-many (10's~100's) billions of years to complete. Here we are disregarding the 13.7billion yrs. big bang time scale completely as it is highly erroneous.

Two... In the initial phases of life formation on a planet, the surface contains liquid water + methane and condensation of water vapour and methane gases is taking place in the atmosphere releasing heat as it is an exothermic phase transition. This condensation process will go on for many millions of years counteracting the cooling effects of interior surface and giving life formation processes stable temperatures. Uranus and Neptune are most likely in the beginning of this phase.

Three... After the condensation of water vapour to liquid the whole planet is covered in thick layer of liquid water, cooling and solidifying its crust and it then acts as an insulator for further heat loss from the interior of the planet. Therefore it prolongs the time of cooling substantially by slowing it down.

Four... The many processes of molecule formation, crystallisation, and solidification taking place inside the core of the planet are exothermic resulting in the release of heat. This heat is getting transferred to the water layer above and will counteract the cooling effect of evaporation on top layer of water and will result in an extended period where temperatures variation will be minimal resulting in propagation of life for hundreds of millions of years.

Five... Sunlight continuously transfers energy from sun to earth by radiation and some of this heat is trapped in the atmosphere by greenhouse effects causing it to heat up and will counteract the cooling of the planet causing slowdown in its cooling process.

Observations on the comparison of relative mass of a star during its transition from star to a planet

This is based on the following observations.

One.... As the star comes into existence via electromagnetic Z-Pinch mechanism its mostly a ball of ionised Hydrogen\Helium plasma, which immediately starts cooling by recombination of plasma at its outer surface causing it to shine by releasing energy. It will be a simple reaction of release of energy by plasma recombination and will convert back into Hydrogen and Helium gas which will escape continuously into space (some of it as solar wind). It will also be losing mass through flares and CME's in addition to radiation of energy.

Two.... What we observe is that the composition of young stars is mainly Hydrogen/Helium plasma whereas the composition of most cooled stars (planets) consists of (e.g. earth) mainly Iron, oxygen, silicon, magnesium, nickel, sulphur and smaller quantities of other elements.

Three.... There is very little Hydrogen and Helium present in elemental form in the solid cooled stars like Earth\Mars etc and whatever fraction is there is mostly combined with other elements e.g. water, hydrocarbons etc.

Four.... The gases get continuously released into the vacuum of surrounding space slowly as the star cools. Planets like Jupiter, Saturn, Uranus, Neptune would continue to lose their gases like H, He, Methane into the surrounding space and at some stage will be left with just the solid cores with thin layers of atmospheres like earth, Mars etc.

We can reasonably conclude from these observations that the large chunk of the material that the star started its life with is largely released back into space in the form of escaped gases of Hydrogen and Helium mainly and what remains is just the cinder of its solid materials synthesised by fusion reactions (fusion process on sun explained in my paper [viXra:1510.0472](#)) forming its core by the end of its life. The solid core material remaining will be a small fraction of the total mass that the star originally started its life with.

Some thoughts on the nature of Time and Space

Human mind is an amazingly ingenious device and it has the capacity to understand things which it cannot even comprehend by its senses. The concept of infinity (for both time and space) is something that falls in this category and the understanding generated by the mind in this regard using its sensory data (i.e. unable to perceive a boundary at some point therefore implying it to be boundless) would be a true representation of reality as it exists. Everything that is finite is measured against something else - Epicurus told us 2300 years ago. One cannot experience finite time scale or distance in a sensory way without measuring it against something else outside of it and still retain integrity of one's senses.

Humans don't possess any other means by which they can refute these conclusions of the senses that nature provide us. Use of dialectics/syllogisms to get around this problem of infinity and put boundary around it using those formulas would be a wrong approach and won't be consistent with natural method of rational inquiry i.e. using senses to perceive reality rather than relying on pure logic only which is merely a tool of rational inquiry and logic can fool us by its misunderstood or wrong underlying assumptions if they are not clearly and precisely understood.

A universe that is boundless (infinite) would imply by definition that it is also eternal (infinite cannot be created therefore it always exists) and this is also confirmed by our senses as well, as we are not able to perceive time and space "not existing at any moment" through our senses. Time is a concept of relation of two or more motions (of bodies) through space (i.e. it doesn't have a physical existence itself but is only a concept) and there is always "Now" continuously in motion at all places simultaneously.

END

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[5] ***New Theory of Nuclear Fusion Processes in Sun and other Stars***

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(Miller–Urey experiment)
