Main Concepts for Explaining Star Evolution (Planet Formation) According to the General Theory of Stellar Metamorphosis

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Abstract: Since it is known in alternative scientific communities that planet formation is star evolution itself via the General Theory of Stellar Metamorphosis, some basic concepts are needed to piece together the puzzle. Negligence of these concepts in application to any model concerning star evolution (planet formation) are more than likely incomplete or false.

There are many assumptions which have not been questioned. So before any real investigation can be had, we must question them. As the reader shall see they are hidden assumptions, taken as fact before there was any real investigation of the stars.

1. Earth was always solid/liquid material throughout its evolution.

   Earth was all phases of matter in larger proportion earlier during its evolution. This assumption led to hundreds of false conclusions, such as the Earth forming “as is” or very close to “as is”.

2. Earth did not evolve greatly to its current configuration and structure, involving every single chemical and physical law currently known to humanity, it formed as is, from pre-formed rocks via gravity alone.

   Stars science is rightly the King of the Sciences, not cosmology because cosmology ignores chemistry and the laws of thermodynamics. Cosmologists try to keep stars as nuclear powered so their own pseudoscience will not be exposed, as they posit impossible/contradictory scenarios such as time itself spontaneously appearing absent the time required to carry out their magical big bang scene.

3. All stars are plasma/hot gas only

As stars age they cool down, plasma becomes hot gas, hot gas becomes supercritical fluid, which then cools down to liquids/solid material. This means stars are comprised of all types of matter in very large proportions as they evolve.

4. All stars have visible spectrums

The vast majority of stars do not have spectrums because they have cooled down too much. Astronomers call them “exoplanets/planets) and they exist in even larger proportions as do Pop I stars (plasmatic, young stars, stars with visible spectrums).

5. All stars are massive like the Sun

All stars lose mass and energy in great amounts as they evolve and cool. They can start out big and hot like the Sun, but will eventually cool and lose the majority of their mass to solar wind, CME’s, solar flares, photoevaporation, impacts, etc. This also means that as it shrinks, it also loses the angular momentum (mass loss), which means its rotational velocity will remain constant.

6. Neptune and Uranus are “icey” per their “ice giant” names.

They emit as much, if not more energy than they receive from the Sun. Icey bodies would be cold worlds, not worlds which emit more heat and energy than they receive from their parent stars. Neptune and Uranus are clearly hot and hellish in their interiors not icey.

7. Planets are by-products of star formation

Planets are by-products of stellar evolution. As a star evolves and cools it forms one planet, not multiple planets as it retains its spherical shape, cools and dies. This is a simple Ockham's razor, Mother Nature does not waste.

8. The disk nebula which are observed are evidence for planet formation

   They are not evidence for planet formation, they are evidence for planet destruction and collision events. The disks radiate strongly in the infrared, meaning the material is liquid hot like magma. In essence they are shrapnel fields, and this shrapnel can re-enter the atmospheres of other stars as meteors and can be found on the ground as meteorites, and even leaves rings around other evolved stars and asteroid fields and in meteor showers.

9. The evolution of all the solar system objects relies on the fate of the Sun alone.

   The solar system is clearly an adopted family, with mini solar systems inside of it. It is much more reasonable to actually look at the objects and notice they are all different in size, look different and are in different random orbits, meaning the Sun plays a minor and temporary role in their evolution.

10. The Earth always had a really thin atmosphere.

    Since the Earth evolved from a much larger state, its atmosphere was actually vastly thicker and thinned as it evolved to its current stage of evolution. We can observe the Earth as it was in earlier stages of evolution. They are called stars/gas giants/brown dwarfs. We can also observe the future fate of the Earth, they are called Pop IV stars, Mercury, Venus, Mars, etc.

11. The current orbital configurations of the solar system objects became their original orientation soon after they all formed out of a "disk".

    This assumes capture is impossible and orbits cannot change, regardless if we have observed exoplanets (evolved stars) in retrograde (backwards) orbits and off-set axis. The rule of thumb for solar system formation is that the objects are ALL captured to form the system. The disk theory is not needed at all, it is clear that large objects capture smaller ones as the larger have more angular momentum. This is how all star systems form, binary, triple, etc.

12. The iron cores of the older stars (planets such as Mercury/Mars/Venus/Earth) formed at around the same time as their crusts

    This assumption forcefully places the differentiation process itself as a quick, secondary and unimportant process compared to the concept of plate tectonics, regardless if the core is a much larger, centralized object which gives the Earth its very structure and size. If anything, the crust received the majority of the attention because it is what we interact with and geologists focus on the crust more than anything else. A more reasonable, realistic approach is to look at the Earth itself as a vast 3-dimensional structure, and the crust as a secondary, if not unimportant feature in regards to the evolution of the Earth itself. The crust has its importance for the sustaining of life, but is not the structure which the Earth relies on for stability. The core is the foundational structure to begin the differentiation process itself during stellar evolution.

    As well, there is an absence of volcanism on older dead stars, meaning their cores also remain, regardless if there are any plate tectonics. As well, plate tectonics itself does not account for the evolution of Earth during earlier stages, therefore is probably a vastly incomplete theory, and probably uses ideas which have no mechanism, such as what the driving force for the plates really is.

13. The iron cores of evolved stars could form catastrophically (as in the iron catastrophe), and did not require vastly longer stretches of time provided by the geologists in their theories of Earth formation.

    The purity and size of the iron/nickel cores of evolved stars signals that they took many billions of years to collect their material and solidify. The evidence for the very high ratios of iron/nickel is via meteorites. The cores of stars take longer to form than their

crusts, therefore the iron catastrophe is not a real event. The sequence is incorrect, geologists have the core forming simultaneously as the crust, as well, the amount of time required to form the core is incorrect as mentioned earlier. The cores of stars form very slowly as they evolve, and core formation is a by-product of stellar evolution itself and all evolved stars contain iron/nickel cores. If the object does not have a fully developed massive iron/nickel core, then it is not the remains of a single star, but the remains of a collision event between other objects. The development of iron/nickel cores thus belongs inside of the philosophy of uniformitarianism (very slow change/growth) and not catastrophism.

14. Disks form spherical objects

A spherical object such as a star remains spherical as it evolves and shrinks due to gravity this is why all evolved stars (planets) are round. Disks do not become spherical unless the disk can lose its angular momentum. Since the protoplanetary disk theory/nebular hypothesis does not have any mechanism for angular momentum loss, the theory loses credibility.

15. The objects in the solar system are not independent of the Sun

The whole volume of a star evolves, therefore their evolution is mostly independent of the relativity small surface area impacted by a hotter host. This means they are definitely mostly independent of the Sun, except for their current orbits. Rocky/metal surfaces are not subject to photoevaporation as are younger more gaseous stars, so they are even more independent of the Sun's features except for their thin (if existent) atmospheres such as the Earth.

16. Nothing can enter the solar system from another star system entirely.

There are no walls preventing objects from entering the solar system. If the object has a great enough mass and momentum it will enter freely. This means the Oort cloud is probably an unnecessary concept, as well means that objects found as meteorites probably came from outside the solar system entirely and have origins from some other place in the galaxy, or another galaxy entirely. With this realization it becomes obvious that our own system of objects was subject to capture by the Sun, including the Earth and all the life on it.

17. All the objects in the solar system are roughly the same age

    This ignores the richness of the other objects' evolutionary paths. All the objects in the solar system are most definitely vastly different ages. For instance, Venus is roughly the same size as Earth is comprised of rocks like the Earth and no longer has a magnetic field. How do two very similar objects form at the same time and one have volcanic activity and the other is a lifeless world without any activity? Clearly Venus is vastly older than the Earth and has almost completely solidified.

18. All the large objects in the solar system besides the Sun do not evolve

    All objects which produce heat evolve. As well, chemistry is evident as the proposed heating is provided by synthesis reactions to form molecules (exothermic reactions), fueled via gravitational collapse to overcome the activation energy requirement. The process of stellar evolution forms every naturally occurring chemical compound and molecule. As well other types of exothermic events take place which allow the star to lose enthalpy such as condensation, gas deposition, solidification, etc.

19. Stars are fusion powered, they can not be hot for any other reason

    Plasma recombination/re-ionization fueled via gravitational collapse keeps young stars hot and luminous. As the gravitational field diminishes to mass loss, the feedback loop becomes interrupted and the plasma recombines into superheated gaseous matter which then evolves into much more complex molecules to dissipate the left over heat for many more billions of years.

    This means stars are hot and can remain hot as they evolve with mechanisms completely absent the concept of fusion, and can almost ignore radioactive material heating any

matter. This is a complete reversal in philosophy of stellar evolutionary/planet formation processes being strictly reliant on fusion/radioactivity. Placing importance of fusion/radioactive matter was ill-suited, those concepts more than likely have no actual importance to the evolution of stars (planet formation). What is more appropriate to the reader is to realize the velocities and energies require for nuclear reactions occur in the jets emitted from active galaxies and pulsars, not stars. Stars are simply not energetic enough, they rest on dull photochemical, electrochemical and thermochemical processes.

20. The Earth has moving plates which are the cause for mountain formation

    Plate tectonics does not account for the Earth during earlier stages of evolution while it was a gas giant/vastly younger and hotter star. Therefore mountain formation via plate tectonics alone is probably misguided. This should include the question, how exactly did the molecules which make up the minerals which make up the rocks form to begin with? Plate tectonic does not answer these.

21. Dinosaurs existed as the Earth was orbiting the Sun

    Earth probably orbited many other stars in the past, including when the dinosaurs roamed the Earth. As well, the Earth had other smaller stars orbiting it when it was a very, very hot big hot star.

22. Stars can not cool and die becoming what are called “planets”.

    We can infer what happens to stars as they evolve by studying much older stars. These much older stars are called “exoplanets/planets”.

23. Gravitational fields can exist absent matter causing the gravitation.

    Without matter there are no gravitational fields. This means if there is no matter, there is no gravitational field.

24. All stars came from a giant explosion called the “big bang”.

    Active galaxies eject young galaxies called quasars. No big bang is needed. The young stars form inside of the quasar as it creates matter in its interior.

    This assumption led astronomers to believe they could classify stars based off this hypothetical event, not understanding at all what stars actually evolved “into”. Thus their old stars shine! This is very strange reasoning and contradicts good judgment. The old stars do not shine any more, they are too cold and small, as well they have been given the name “planet” which is even stranger.

25. Chemistry is not important to explain the behavior of stellar events.

    Stars are giant chemistry experiments involving all naturally occurring chemical reactions.

26. Rocks, minerals and life are not exotic structures.

    Cosmologists believe that the universe’s exotic structures are comprised of theoretical entities, such as dark matter, quark stars, and other structures never observed. Rocks, minerals and all of matter comprising life itself, the real physical matter of reality in their thousands of combinations are unimportant and unexotic.

27. Rocks and minerals are related to geology only.

    A star cools and dies forming rocks and minerals in very late stages of its evolution. When someone picks up a rock, they are literally picking up a piece of an evolved star. This means geology is the study of a star in its last stages of evolution.

28. Electrochemistry does not exist inside of young and aging stars.

    Plasma is electrically charged matter and stars are full of chemicals and chemical reactions. Young and aging stars are electrochemical in nature.

29. The rock cycle is a complete understanding of how the Earth's crust came to be absent anything to do with chemical reactions

    Rocks and minerals are chemical compounds, without explaining their chemistry of formation (reverse engineering), the rock cycle is very incomplete.

30. Stars like the Sun have nuclear cores.

    Ockham's Razor destroy's the concept of a nuclear core. A nuclear core would mean the Sun is actually two Suns. A second Sun inside the Sun is unnecessary all the radiation the sun produces can be directly observed on its surface, where it is shining. (Though it is not wise to look at it directly for it will damage your eyes).

    As well, since stars form iron/nickel cores in their interiors as they evolve, then nuclear cores just get in the way. Young stars have not had enough time to form anything resembling a core, the core forms as it cools, shinks and evolves.

31. Exothermic chemical reactions do not exist inside of evolved stars such as Jupiter, Saturn, Neptune, Uranus, and all 1,934 exoplanets confirmed to exist in our stellar neighborhood.

    The direct evidence for exothermic chemical reactions taking place on evolved stars is that they are hot and emit more heat than they receive from the Sun.

32. All life came from outer space and could not have possibly formed on the Earth.

    Life is a by-product of stellar evolution. As the star cools and dies it creates life. The evolution of life and the evolution of a star go hand in hand.

33. Earth has always orbited the Sun.

    This is probably not true as evidenced by the extinction events which wiped out very large amounts of life on the Earth and fit nicely with extra impact events (the Earth was clearing a new path/orbit), a change in salinity in the oceans, changes in atmospheric conditions, extra volcanic eruptions caused by the Earth's crust compression as the orbit change was taking place, etc.

    Assuming things are this way and have been this way forever is poor reasoning itself.

34. Large stars can not rip away the thick atmospheres of much older stars exposing their cores.

    Large stars are ripping away the thick atmospheres of much older stars exposing their cores, they are called hot Jupiters.

35. Orbits of all the objects in the galaxy are stable

Capture is the method for solar system formation, big objects capture smaller objects. The orbits only appear stable because of humanities' relativity short existence. One million years is nothing compared to the Earth's history.

36. The Earth is ~1/3 the age of the entire universe.

The universe never "began". It is eternal both in time and space. It is all times and all places.

Since it is all times, it cannot have a "single time" for its beginning. Understanding what Universe means and then proposing that it had a beginning is flawed reasoning. As well how did they determine the age of an entire galaxy? They date what they consider to be the oldest star inside of that galaxy? A analogy can show why this reasoning is flawed as well, do we the age of a tree by figuring out how old a leaf is? Or do we look at the tree itself? Why did we assume a single star could be the age of an entire galaxy which it inhabits? An even bigger question should be asked. Did they assume all galaxies are the same age?

37. Quasars are at their redshift distance.

The redshift of quasars is caused by them exiting their parent galaxies at high velocity. They are not at their proposed redshift distance. This means using redshift to determine their distance is flawed, redshift determines a quasar's velocity.

38. Galaxies are all moving away from each other.

Galaxies are observed to collide and merge all over the universe. If they were all moving away from each other in an "expanding universe" then these observations would not exist.

39. Redox reactions have no place in stellar evolution or the formation of land in the interiors of gas giants.

    Reduction and oxidation reactions are primary to the formation of land and the evolution of the interiors of gas giant stars, as well as read dwarfs and earlier stages of stellar evolution.

40. The best electrolytic substance is comprised of aqueous solutions with free ions, not plasma.

    Plasma is completely comprised of free ions and electrons. This means plasma can be much more electrolytic than aqueous solutions which comprise very few free ions, and all young stars are comprised of plasma, meaning they are all very electrolytic. This also means young stars can form giant electrolytic capacitors which can store and release huge amounts of electric charge.

41. Thermodynamic phase transitions carry no real importance to stellar evolution.

    Condensation, vaporization, solidification, ionization, recombination, deposition, sublimation and melting are central to star evolution as the enthalpy of the star diminishes.

42. Electrical currents, magnetic fields and the motion they induce are irrelevant to the evolution, formation and configurations of the celestial objects.

Electrical Current + magnetic field = forced material (Flemings left hand rule for motors)

Magnetic field + moving material = electrical current (Flemings right hand rule for generators)

43. Earth's water was transported to it "as is" from objects not formed on the Earth.

    Earth's water was formed on the Earth as it evolved from earlier stages of evolution. Chemical reactions play the central role to water formation.

    Acid + base = salt + water, neutralization reaction, double replacement reaction

    HCl (hydrochloric acid, aqueous solution) + NaOH (sodium hydroxide, aqueous solution) =

    NaCl (salt) + H20 (water), salt water oceans.

    The whole idea that water had to be transported here is rooted in the false dogma of all comets being dirty snowballs, when it is well known that they are rocks and minerals. There could be many hundreds of ways to form water oceans, some chemical reactions producing more water than others.

44. Comets are dirty snowballs.

    Comets are stellar shrapnel, where a body slams into another will determine what composition the comet is. This means comets can be comprised of any element or molecule.

45. Last but not least, astronomers and astrophysicists actually understand what they are talking about because they went to school.

Schooling and truth are not always the same thing. Four elements, Earth being flat, the Sun being the center of the universe (according to Copernicus), etc. There are always different levels to truth, school does not teach this.

This is the end of the assumptions list.

Observations that can falsify stellar metamorphosis will be listed below.

1. Find a star with a visible spectrum the mass of the Earth.

2. Find a rocky object the mass of the Sun.

3. Find a rocky object which has layered its elements based off weight alone, no mixing, the elements can only sort according to their mass.

4. Find an object with a global magnetic field, the same size and mass as the Earth with water oceans and rocks/minerals, but with no life what so ever.

5. Find a rocky object with a hollow core.

6. Find a rocky object which possesses no volcanic activity but has a global magnetic field.

7. Find a gas giant, or rocky object which has two different magnetic fields not a main one.

8. Find a gas giant that emits no heat what so ever.

9. Find a gas giant (star that does not possess a spectrum) that flares regularly.

I. Generalized differentiation of the star during early evolution to a fully differentiated star similar to Earth.

    1. Young Sun like stars become Earth like stars, and all the objects found in between the two sizes are different stages to their evolution.

2. Young Sun like stars are mostly ionized matter without a core. Earth like stars are mostly solid/liquid material with iron/nickel cores. The star's differentiation happens as it evolves.

II. Chemistry, including thermochemistry, electrochemistry, acids, bases, redox reactions

1. Chemistry is a branch of physical science that studies the composition, structure, properties and change of matter

2. Thermochemistry is the study of the energy and heat associated with chemical reactions and/or physical transformations and extra heat from evolving stars.

3. Electrochemistry is the branch of physical chemistry that studies chemical reactions which take place at the interface of an electrode, usually a solid metal or a semiconductor, and an ionic conductor, the electrolyte.

4. An acid is a chemical substance whose aqueous solutions are characterized by a sour taste, the ability to turn blue litmus red, and the ability to react with bases and certain metals (like calcium) to form salts.

   (1) Aqueous solutions of acids have a pH of less than 7. Bare protons do not exist in aqueous solutions, but they exist in plasma. This means plasmas can be much stronger acids.

   (2) Non-aqueous acids are usually formed when an anion (negative ion) reacts with one or more positively charged hydrogen cations.

5. Bases are substances that, in aqueous solution, are slippery to the touch, taste bitter, change the color of indicators (e.g., turn red litmus paper blue), react with acids to form salts, and promote certain chemical reactions (base catalysis).

   (1) Aqueous solutions of bases have a pH of greater than 7. A good example of a base is OH- which is hydroxide.

   (2) Examples of bases are the hydroxides of the alkali and alkaline earth metals (NaOH, Ca(OH)2, etc.).

6. A reagent is a substance or compound that is added to a system in order to bring about a chemical reaction, or added to see if a reaction occurs.

7. A product is a species formed from chemical reactions either with or without a catalyst.

8. Oxidation involves the loss of an electron, reduction involves the gain of an electron. A good meme for this would be OIL RIG. During stellar evolution many thousands of different chemicals are formed from the continual gain and loss of electrons in their interiors.

III. The increasing/decreasing strength of gravitation as the star is subsequently born and evolves, as well as the actual role of gravitation during stellar birth

1. The gas cloud does not collapse when it is born, it collapse as it evolves and loses energy and mass.

2. Gravitation provides direction for the collapse and fuels chemical, thermochemical and electrochemical reactions.

IV. Changing pressure (high, low, EM forcing), internally/external layers in the star as it evolves

1. Low to high to low pressure (pressure of solid material)

2. Flemmings right hand rule for generators, magnetic + force = current

3. Flemmings left hand rule for electric motors, current + magnetic field = force

4. Electromagnetic forcing diminishes as star evolves because there is less ionized matter

V. Temperature, heat, endothermic, exothermic reactions

1. The evolution of heat internal and external heat evolution, is exothermic, the absorption of heat is endothermic

2. Real radiative zones, real convection zones, real conduction zones between different chemical compounds and phases and their changing nature

3. If a reaction is exothermic usually the reverse is endothermic, meaning the majority of chemical reactions are reversible given the conditions available including pressure temperature and the reagents/catalysts involved.

4. Hot areas

5. Cold areas

6. Medium temperature areas

7. Activation energy provided by gravitation, friction, etc.

8. Enthalpies of formation (OMG)

9. Temperature gradients

10. Heat on young stars dissipates externally and eventually moves inwards, greatly expanding the stars ability to retain heat for very long periods of time (thermally insulating molecules evolving on the top of the star trapping the heat, allowing for chemical reactions to continually take place absent a hotter host star, independent structure).

11. An isothermal process is a change of a system, in which the temperature remains constant: $\Delta T = 0$. This typically occurs when a system is in contact with an outside thermal reservoir (heat bath), and the change occurs slowly enough to allow the system to continually adjust to the temperature of the reservoir through heat exchange. In contrast, an adiabatic process is where a system exchanges no heat with its surroundings ($Q = 0$). In other words, in an isothermal process, the value $\Delta T = 0$ and therefore $\Delta U = 0$ (only for an ideal gas) but $Q \neq 0$, while in an adiabatic process, $\Delta T \neq 0$ but $Q = 0$.

This means an isothermal process is what a heat sink allows for, and a propane torch is an adiabatic process. The heat bath or thermal reservoir in the case of stellar evolution is outer space itself, which can absorb very large amounts of heat allowing for the temperature of the star to remain constant. A very large portion of a star's internal heat exchanges are adiabatic like the idealized cylinder of gas compression. This is facilitated by thermally insulating material.

VI. Trans-concepts such as Peltier Effect, Seebeck effect, natural thermocouples

1. Peltier effect is when a current is made to flow through a junction between two conductors A and B, heat may be generated (or removed) at the junction.

2. The Seebeck effect is the conversion of temperature differences directly into electricity and is named after the Baltic German physicist Thomas Johann Seebeck. The Seebeck effect is a classic example of an electromotive force (emf) and leads to measurable currents or voltages in the same way as any other emf. Electromotive forces modify

Ohm's law by generating currents even in the absence of voltage differences (or vice versa)

VII. Properties of all elements, not just elements lighter than oxygen or lithium.

1. Different elements have different critical points, triple points, ionization energies, different weights, different magnetic properties, etc.

2. Stellar evolution rests on all elements playing a role and all the elements have their own strengths, weaknesses and purposes for fueling different types of chemical reactions and processes involving in life formation, core formation, land formation and the evolution of the atmosphere. Just saying stellar evolution only involves elements lighter than oxygen or lithium is neglecting the majority of star science. Unfortunately astronomers call elements heavier than helium, “metals”. This means their goal is to ignore chemistry to make calculations easier via idealization (which essentially ignores reality).

VIII. Changes in diameter of the star as it evolves

1. Big to medium to small

2. Population I stars are big (examples), A, B, O, F, G, K, M

3. Population II stars are medium sized (classes of brown dwarfs, blue dwarfs, list some for example purposes).

L, T, Y

4. Population III stars are small (Earth)(Kepler 326d)

5. Population IV stars are dead worlds and small (Mercury)

IX. Changes in mass, including changes in rate of mass loss to solar flaring, coronal mass ejections, radiation, impacts, and photoevaporation

1. How much mass can be lost to photoevaporation, from outside of the star. This would also rest on distance from host/time kept in a close orbit.

2. How much mass can be lost to radiation (from the star's own radiation)

3. How much mass can be lost to coronal mass ejections and solar flaring

(a). The mass loss continues until it can no longer have CME's or flare in any significant amount.

(b). Find out which stars no longer flare, and that is the flaring cut off. (probably red dwarfs to brown dwarfs, no brown dwarfs flare, but red dwarfs do (auburn dwarfs!)

4. How much mass can be lost to impacts

(a). no mass loss to impacts, only mass accretion (can trigger CME/flare so there's that).

(b.) mass loss to impacts can only occur when the gravitational field is not strong enough to hold all the material, meaning the velocity of the impact shrapnel overcomes the escape velocity of the parent object.

5. How big does the gravitational field have to be for a star to have rings (how cold?) Do radiation belts prevent ring formations?

X. Changes in stellar density

1. Keep it simple

2. Vacuum-like, does the pressure balance happen in the surface, preventing buildup of heat in the interior? Does the fact that the material is electromagnetically forced outwards contribute to the interior being stretched outwards?

3. thick gas

4. Supercritical

5. Solids/liquids (stress, strain, compression of rocks, decompression, engineering, losing atmosphere so it would rebound greatly and then recollapse causing folds in the land/mountains)

6. Solids, after liquids have cooled (no magnetic field because no fluid material and the remenance of the iron/nickel core is not great enough to sustain the magnetic field)

XI. Length of specific phases of evolution over short/long term, deep time, orbit changes

1. Catastrophism (more with younger stars) vs. Uniformitarianism (more with older stars) (very fast, medium, very slow changes)

(a). Concepts were invented by the same person, CME, flare would be catastrophism (fast change, lava and pyroclastic flows would be medium between the two, and crystal growth, weathering and re-sedimentation would be uniformitarianism (slow change)

2. Impacts versus slow mass loss (references Pop I, Pop II, Pop III) stars in reference to how damaging a impact would really be (make note of material being collected in the interiors by much wider stars, dust traps, larger gravity well allows for larger objects to get swallowed, stars as giant mass collectors)

(a). mass accretion from one star to the next strange as they both lose mass to interstellar space

(b). Pop 1, mass loss to CME's and flares (fast)

(c). Pop 2. Mass loss to photoevaporation (medium)

(d). Pop 3. Mass loss to impacts (very slow, rare events)

3. Orbit changes would require deep time (atmosphere would protect the inner evolution of the star), maybe being ripped from orbit would happen quickly but settling into a stable orbit would allow for stability of evolution, it would set specific stages of evolution on a fast/slow/medium track due to location of new orbit in reference to host star's heat/light.

As well, photoevaporation would only impact the lightest of molecules/elements (surface molecules/elements) this is why evolved stars are comprised of mostly heavier elements and rock like molecules. Bonding also plays a large role, material that is bonded strongly will remain in tact for much longer periods of time even in the presence of highly ionizing radiation. A good surface to examine to study how long term photoevaporation would impact a dead star/stellar remnant would be the moon.

4. Stress being a part of an adopted family, they are not related to each other not dependent on each other's evolutionary path except for types of mass loss caused by the stages of evolution their host stars are in.

5. Include the likelihood of retrograde orbits because of capture.

5. Deep time is very important for humans to understand. One hundred years is nothing compared to a time of 100,000 years. The latter is nothing compared to 10,000,000 years and subsequently 10,000,000,000 years. It should be noticed there is a limit on human perception of longer periods of time. In the past a few years was an eternity, which then was expanded to a couple thousand years, which was then further expanded to a few million and a few billion. Now we are dealing with events that have probably transgressed in upwards of hundreds of billions, even trillions of years. Of course, this is to the detriment of creationist philosophy in which the universe was created out of nothing 13.7 billion years ago. There are many more problems with big bang and creationist philosophy, which will not be listed here as it would be a waste of time.

XII. Thermodynamic phase transitions, including plasma, (monotomic/diatomic/polyatomic) gas, liquid and solid material and specific mixtures as they evolve and combine into more complex mixtures and solutions.

1. Condensation, solidification, deposition, recombination, vaporization, melting, sublimation, ionization

2. Types of matter interaction, effusion (supercritical matter), osmosis, etc.

3. Stress solutions which can sustain free ions without being a plasma, electrolytic solutions are very important when they cross barriers, anions and cations in a plasma and other aqueous solutions

4. Can complex mixtures ionize? What would happen to them?

5. Stars are not closed systems, that only suits equations for the fantasy fusion model in which they ignore where the heat is being produced, on the surface only. Define open systems, closed systems, the "laws", non-equilibrium thermodynamics. 6000 K to 2.72 K to millions of Kelvin.

(a). Zeroth Law of thermodynamics- if two thermodynamic systems are each in thermal equilibrium with a third, then they are in thermal equilibrium with each other.

(b). First Law of thermodynamics - is a version of the law of conservation of energy, adapted for thermodynamic systems. The law of conservation of energy states that the total energy of an isolated system is constant; energy can be transformed from one form to another, but cannot be created or destroyed. The first law is often formulated by stating that the change in the internal energy of a closed system is equal to the amount of heat supplied to the system, minus the amount of work done by the system on its surroundings.

(c). Second Law of thermodynamics – Heat always flows from the hotter to the colder. That was simple.

(d). Third Law of thermodynamics - It is impossible for any procedure to lead to the isotherm T = 0 in a finite number of steps

XIII. The role of electric current/voltage and magnetic fields (including ferromagnetism, diamagnetism, paramagnetism)

1. At what heats do these materials increase/decrease their magnetic properties

2. What voltages/amperages exist in the solar interior/exterior

3. Ferromagnetism is the basic mechanism with which iron and other types of material can form permanent magnets (iron, neodymium alloys)

4. Diamagnetism is an induced magnetic field in opposition to an externally applied magnetic field (bismuth, antimony)

5. Paramagnetism is where certain material are attracted to an externally applied magnetic field by forming a magnetic field in the direction of the externally applied one. (paramagnets do not retain their magnetization outside of an applied field, compounds and elements can be paramagnetic).

XIV. The role of thermally conducting/insulating material during stellar evolution (when it cools into what is called a "planet").

XV. The role of electrically conducting/insulating material

1. When plasma recombines into gas it becomes electrically insulating. (This plays a large role when red dwarf transitions to brown dwarf and stops shining in the visible spectrum. Most heat becomes infrared as well, then its heat production would be determined by how thermally conductive the material is.)

2. Plasma conducts electrical currents easily but has resistance, neutral as a whole, but like gases which have a net velocity of zero they are still moving very rapidly. Plasma as a whole is electrically neutral, but is charged matter, so to say its neutral matter is false.

3. Superconducting material- what are the mechanisms behind pulsars and their alleged properties, should include superconducting electromagnetic storage mechanisms, and the mechanisms behind the Boomerang nebula, supposedly the coldest measured place in the galaxy. (pulsar birthing?)

XVI. The role of thermally conducting/insulating material. Thermodynamic contraction and expansion of specific materials.

XVII. Hydraulic and pneumatic properties of material under extreme temperatures/pressures/chemistry changes

1. Engineering terms regarding viscosity, Reynolds number, etc.

(a). Viscosity - The viscosity of a fluid is a measure of its resistance to gradual deformation by shear stress or tensile stress. For liquids, it corresponds to the informal concept of "thickness". For example, honey has a much higher viscosity than water. Viscosity is a property arising from collisions between neighboring particles in a fluid that are moving at different velocities.

(b). Reynolds number - In fluid mechanics, the Reynolds number (Re) is a dimensionless quantity that is used to help predict similar flow patterns in different fluid flow situations. The concept was introduced by George Gabriel Stokes in 1851, but the Reynolds number is named after Osborne Reynolds (1842–1912), who popularized its use in 1883.

The Reynolds number is defined as the ratio of momentum forces to viscous forces and consequently quantifies the relative importance of these two types of forces for given flow conditions. Reynolds numbers frequently arise when performing scaling of fluid dynamics problems, and as such can be used to determine dynamic similitude between two different cases of fluid flow. They are also used to characterize different flow regimes within a similar fluid, such as laminar or turbulent flow:

- laminar flow occurs at low Reynolds numbers, where viscous forces are dominant, and is characterized by smooth, constant fluid motion;

- turbulent flow occurs at high Reynolds numbers and is dominated by inertial forces, which tend to produce chaotic eddies, vortices and other flow instabilities.

In practice, matching the Reynolds number is not on its own sufficient to guarantee similitude. Fluid flow is generally chaotic, and very small changes to shape and surface roughness can result in very different flows. Nevertheless, Reynolds numbers are a very important guide and are widely used.

2. Low gas pressure can move faster and generate more heat?

3. Displacement of fluids/injection of fluids via effusion to cause crustal deformation and allow for some rocks to be weathered easier, hold on to liquids easier.

4. List gas laws here (perfect gas equation and its flaws, idealizations, not perfect reality)

pV = NRT pressure, volume, amount, the ideal gas constant, and temperature of the gas, respectively.

(a). Boyle's law - The absolute pressure exerted by a given mass of an ideal gas is inversely proportional to the volume it occupies if the temperature and amount of gas remain unchanged within a closed system.

(b). Charles' law – gases tend to expand when heated (very important, the internal temperature of Sun to the gas giant)

(c). Gay-Lussac's law (sp?) Under STP, a reaction between three cubic meters of hydrogen gas and one cubic meter of nitrogen gas will produce circa two cubic meters of ammonia

The pressure of a gas of fixed mass and fixed volume is directly proportional to the gas's absolute temperature. (need to fix and learn all this very well).

XVIII. The rock cycle during late stages of star evolution, physical changes in matter including weathering and erosion

1. The rock cycle is a basic concept in geology that describes the dynamic transitions through geologic time among the three main rock types: sedimentary, metamorphic, and igneous.

2. Rocks and minerals only “weather” after they are formed, meaning the majority of sedimentary rocks are only formed after the main rocks have been formed. The majority of sedimentary rocks are formed in late star evolution.

3. Overview the difference between deposition as in sedimentary rock formation and the thermodynamic phase transition of deposition, where gas directly transitions to solid as in ice crystals from water vapor.

5. The importance of physical deposition at much higher temperatures and pressures beyond standard temperatures and pressures (STP)

XIX. Physical deposition versus chemical deposition, including physical vapor deposition in vacuum, gaseous structure, and electroplating

1. Planet core formation timetable here

2. Anodes and cathodes (in regards to electroplating a core, not the only contributing phenomenon either).

XX. The formation of life on the star as it evolves (macroscopic dissipative system forming uncountable microscopic dissipative systems)

1. Miller-Urey Experiment - was a chemical experiment that simulated the conditions thought at the time to be present on the early Earth, and tested the chemical origin of life under those conditions. Specifically, the experiment tested Alexander Oparin's and J. B. S. Haldane's hypothesis that conditions on the primitive Earth favoured chemical reactions that synthesized more complex organic compounds from simpler inorganic precursors. Considered to be the classic experiment investigating abiogenesis, it was conducted in 1952[3] by Stanley Miller, under the supervision of Harold Urey, at the University of Chicago and later the University of California, San Diego and published the following year.[4][5][6]

After Miller's death in 2007, scientists examining sealed vials preserved from the original experiments were able to show that there were actually well over 20 different amino acids produced in Miller's original experiments. That is considerably more than what Miller originally reported, and more than the 20 that naturally occur in life.

2. Star becomes more and more disorganized (entropy increases), signaled by the crystallization of tens of thousands of different inorganic substances which can form repeated patterns known as minerals. Life branches off naturally from the combination of inorganic substances into organic ones.

XXI. The role of entropy during stellar evolution

1. Gravitation being reverse entropy (100% General Relativity is pseudoscience so the reader can ignore that without wasting time). No real ideas on gravitation other than the fact that it organizes, it does NOT disorganize, all material falls in one direction towards the gravitating object).

2. Macroscopic dissipative system is a large thermodynamically open system which is operating out of, and often far from, thermodynamic equilibrium in an environment with which it exchanges energy and matter.

XXII. Changing concentration of fluids with respect to changing gas/liquid/supercritical pressure/temperature

1. Chemical reactions would change concentrations of matter, causing different types of chemical reactions and precipitate into interior

2. The role of effusion – the fact that many minerals and rocks contain high concentrations of water shows that effusion plays a role, and is direct evidence that water

was supercritical on the surface of the Earth (meaning there were very high temperatures and pressures involved and the atmosphere of the Earth was much thicker)

3. Drying out of rocks/minerals/crystals as they disintegrate over time.

XXIII. Solid state and surface chemistry including the role of molecular and elemental catalysts, including platinum and the beginnings of biological catalysts such as enzymes.

1. UV radiation in the high atmospheres of evolving stars, which frequency of EM can break up rocks and minerals the best (assuming there is no atmosphere to prevent the penetration of UV light to break up molecules). This could mean the thickness of the atmosphere will allow for the formation of rocks and minerals, and without an atmosphere rocks and minerals will not form, they will disintegrate like in comets.

2. Photosynthesis, photochemical reactions (the role of magnesium core inside of photocells)

XXIV. Chemical kinetics (matter in motion in liquids, gases, supercritical fluids, plasmas, etc.)

1. Gas pressure would be even thoughout a young star?

2. Differential rotation is the same in stars big or small, (the large bands of rotating air/plasma)

XXV. Colligative properties of solutions and mixtures

1. Crystallization, how they would spur molecular coagulation

2. The process of polymerization inside of gas giants/young stars including hydrocarbons, meaning hydrocarbons are probably abiogenic, meaning not reliant on decomposing organisms.

XXVI. Soaps and surfactants with regards to the beginnings of life formation and cellular organization in late states of stellar evolution

XXVII. Various stages of temporary chemical equilibrium and feedback loops during stellar evolution in early, middle, late stages and dead stars (Pop I, Pop II, Pop III, Pop IV stars respectively)

1. Feedback loops

2. Gravitation preventing collapse (gravity re-ionizes matter, if matter thickens becomes opaque, then gravity will be too weak to bring the material up to its critical ionization velocity leading to a prevention of re-ionization. This means the matter will recombine and release heat and then fall inwards to being differentiation depending on what type of matter it is and what molecules were formed chemically).

3. Only collapsing (shrinking in diameter) as fast as it loses mass (mass loss helps the star to lose its gravitational strength). This means objects which lose mass very rapidly will collapse faster.

4. The role of material's critical ionization velocity

XXVIII. The evolution of the star's various magnetic fields into a global magnetic field including the evolution of the star's internal dynamo

1. Disorganized to coherent

2. Is there a "dynamo"?

3. Offset magnetic properties of Uranus and Neptune (does this signal recent capture by the Sun? The inner objects have very close magnetic field orientations to each other, the outer objects do not.)

XXIX. Intermolecular forces, including the role of oils, lubricants

1. Does oil allow for rock movement? Sliding? Effusion of oil?

XXX. The electromagnetic properties of elements and molecular compounds

1. Marklund convection (sorting of matter due to their ionization potentials, how easy they are to ionize), plus there are different levels of ionization and what types of new molecules formed would determine where they are placed, we'd have to look at the Earth for that).

2. Critical Ionization Velocity of gases

3. Friction changing properties of elements and molecules

4. Simple molecules

XXXI. The role of charged material during early star evolution

1. Plasma causing electrical fields

2. Lorentz force, right hand rules, left hand rule

XXXII. Natural battery (many cells) and electrolytic cell (one cell) formation

1. Plasma as electrolytic substance

2. Charge carrier subject to field alignment

3. Permeability/remenance of material as the matter evolves in their interiors and keeping these batteries stable or unstable

4. Chemical explosions due to large scale cell formation (+,-), oxygen and hydrogen combination explosions, etc.

XXXIII. The role of cloud capacitance within various chemical mixtures in both solar and evolved stellar interiors and high atmospheres

1. Magnetic flux, gauss, teslas

2. Townsend avalanche (flares?)

3. Storing charge between clouds on the Sun

4. Electron motion, spurring electrical activity

XXXIV. Acoustic studies, P-mode oscillations which show that the Sun does not possess a nuclear burning core, but is a homogeneous young star. Sound energy. The false findings concerning the non-existent G-mode oscillations (used to try and justify a core, when there is not one, it was too shocking of a finding.)

XXXV. What is the cause for cephid variables brightening and dimming again?

XXXVI. Is opacity important or is it a made up concept used to justify theorist's wishful thinking?

1. Young star interiors are dark or bright?

2. Opacity for investigation in regards to different frequencies of EM radiation and how they would play a part in a star's internal evolution and external influences in regards to photoevaporation and photochemistry. It should be noted that many types of ionizing radiation play a very large role in the synthesis and decomposition of specific molecular bonds as well.

XXXVII. Weather on evolving stars

1. Only population 4 stars do not have weather (no magnetic field, ions get swept away as well as electrons, changing the composition of material and speeding up the radioactive decay process, leaving meteorites and the surfaces of many dead stars much younger in appearance than they actually are.)

2. Population 1-3 stars have weather under different (higher/lower) phase transitions, should weather be classified as anything that moves on a star absent living matter causing it? Gas moves creating wind, but that is human centered. Lava moves too and so do the supercritical water in hydrothermal vents deep in the ocean!

(a). High energy phase transitions (plasma to gas)

(b). Medium energy phase transitions (gas to liquid/supercritical fluid), hurricanes, blizzards, earthquakes might be involved too, etc.

(c). Low energy phase transitions (liquid to solid), water, deposition of rocks, minerals, solidification, condensation, lava, etc.

XXXVIII. Spectroscopic studies

1. Not only applicable to stars which are shining

2. Just because a star does not have a visible spectrum, does not mean it is not a star, over-reliance on the idea that a star cannot lose its spectrum.

XXXIX. Composition of meteorites to determine the location on a dead star.

1. Bowen's reaction series/dissolution series needs to be expanded greatly

2. Taenite/Kamacite pure iron/nickel center, the more rock like or chondritic move towards the outer layers of the star, stony iron would be right in the boundary layers between iron/nickel core and lower mantle.

XL. The role of velocity dependent nuclear reactions as opposed to temperature dependent nuclear reactions. Quasar development/galaxy evolution. Place Jerrold Thacker's ideas concerning the measurement of distance as B-V index versus apparent magnitude, not redshift velocity. His quasar measurements are vastly more accurate.

Heavy element abundance increases as the quasar evolves, it is synthesizing matter in fusion reactions, which are velocity dependent not temperature dependent (which is sort of saying the same thing. ****there is an important discovery to be made here****

Should metallicity be applied to quasar spectra not stars? As stars are not nuclear events, quasars are?

XLI. Placing importance of reverse engineering the Earth, to account for observations in Neptune, Jupiter, Saturn, Uranus, the Sun and every single exoplanet (ancient star) in the galaxy

We can see the end result of a star's evolution, we don't have to theorize into oblivion.

As the reader can see, a star's evolution (the process of planet formation) is vastly more complex than establishment models have predicted. It is suggested to apply these concepts to star evolution, so we can continue to do science, instead of ignoring them in favor of fusion/nebular hypothesis/big bang dogma.