Some Pieces to the Great Red Spot on Jupiter Puzzle

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Abstract: This is a proposed reason there are red storms on Jupiter, with a few other ideas. The nitrogen and oxygen available in Jupiter's atmosphere, inside of ammonium hydrosulfide [$(NH_4)HS$] and water (H_2O) interact with UVB and UVC light. The high energy photons from UV light could break them down into their elemental forms, which can then recombine with each other forming dinitrogen tetroxide N_2O_4 a colorless gas, and a host of other compounds and molecules. For this paper though, I will focus on the Giant Red Spot maintaining equilibrium by converting N_2O_4 to NO_2 and back to N_2O_4 again. This also provides a reason why hydrogen is lost in huge amounts, as more electronegative elements nitrogen and oxygen, begin dominating and forming more complex compounds.

It has been discovered that planets are older stars.[1] This means that they will cool and shrink and differentiate their interiors into most likely life hosting worlds similar to Earth. This is of course given many other conditions are met. In light of this discovery, it is required to explain how gas giants like Jupiter cool down, and some events that happen as a result of this cooling down.

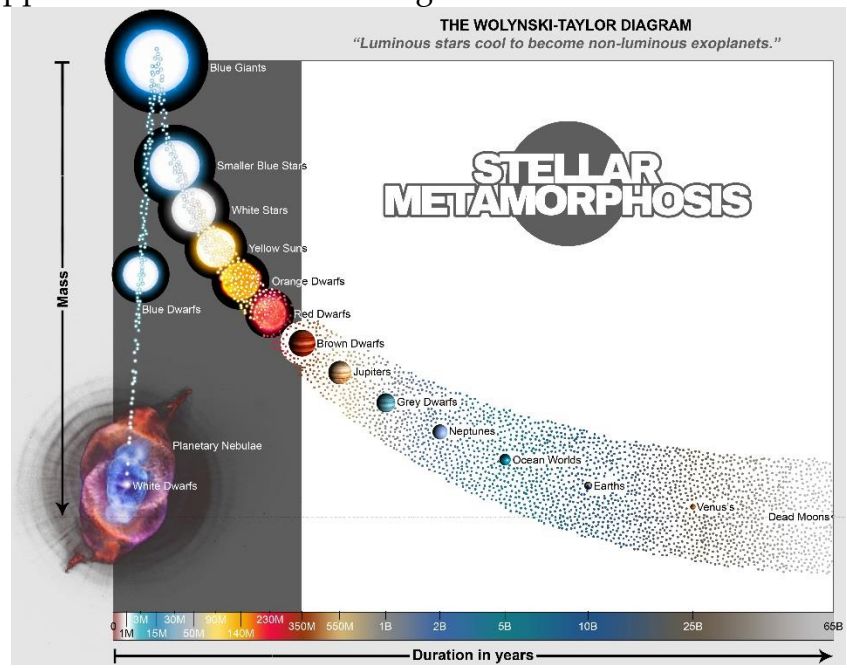


Illustration of Stellar Metamorphosis

No mainstream astronomy articles mention the importance of this discovery, nor do they realize the mystery of planet formation was solved, so it is up to the reader to take the Bull by the Horns, so to speak, because academics are mired in bureaucracy and careerism. That being said, the chemistry of stars as they cool down and evolve into what astronomers call "exoplanets/planets" involves the chemistry of forming every single molecule and compound found naturally occurring on the Earth. Not only that, but they are reliant on simple principles of chemistry including but not limited to Le Chatelier's Principle and sometimes attributed to Karl Ferdinand Braun, which addresses the chemical equilibrium of matter.[2]

"When any system at equilibrium for a long period of time is subjected to change in concentration, temperature, volume, or pressure, then the system readjusts itself to partly counteract the effect of the applied change and a new equilibrium is established. But the new equilibrium wasn't the same old equilibrium."

Simply put, the concentrations of N_2O_4 to NO_2 change due to the storms changing equilibrium states. This is of course after (during) having the UVB and UVC photons break down basically any chemical, compound or molecule. In fact, trace amounts of NO_2, the brown in the storm, we'll nickname this brown for typing sake, are what make the clouds brown. The dinitrogen tetroxide "clear", which the brown forms from is also present in trace amounts. Though it is okay to have trace amounts of brown making the storm brown, this is similar to iron atoms or other transition metals coloring amethyst purple, even though it is mostly silicon dioxide crystal.

The Clear in the top portions of Jupiter are disturbed by the upwelling convection of Jupiter's interior. Due to this upwelling, the pressure increases, and the Clear turns to brown due to increased pressure. This causes the equilibrium to change, making a huge brown storm. As the storm is pushed by internal currents, the brown expands outwards and cools back to clear again around the edges, to continue mixing with the atmosphere.

Jupiter's Atmospheric Conditions are Great Physical Representation of Le Chatelier's Principle

2/10/19
JJW

High pressure
NO_2

Low Pressure
N_2O_4

High
NO_2

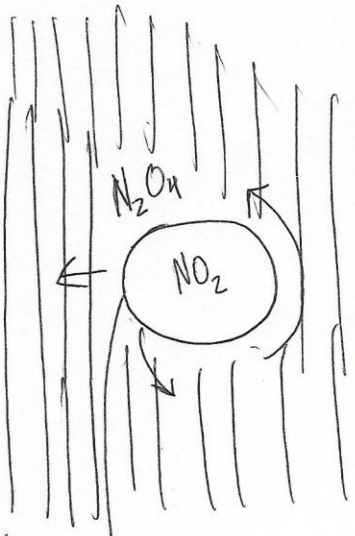
- you can tell where the higher pressures are by the color
- N_2O_4 (colorless) Low
- NO_2 (Brown areas) High
- trace amounts give it away
  (even opaque atmospheric conditions can be caused by colorless gas)

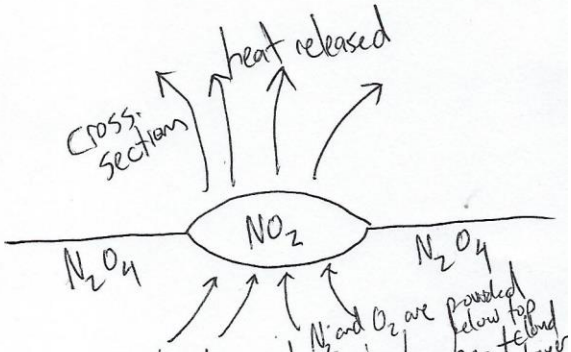
(dinitrogen tetroxide) (nitrogen dioxide)

$N_2O_4 \rightarrow NO_2 \rightarrow N_2O_4 \rightarrow NO_2 \rightarrow N_2O_4 \rightarrow$ etc.

Clear Brown Clear Brown Clear

2/10/19





□ Boils down to simple heat transfer from inside Jupiter to outer space (convective & radiative heat loss)

#1 Heats up the N_2O_4 around the edges of the storm, and pushes it to maintain equilibrium becoming NO_2 (Brown gas in trace amounts) Jupiter is still cooling off still hot in interior (very)

#2 The outside edges of the storm are ~~cold~~ cooler/low pressure areas, the center is higher pressure (will release heat more in the center

#3 The heat being released will cause the NO_2 to convert back to N_2O_4 (colorless gas)

[1] http://vixra.org/pdf/1711.0206v4.pdf, The General Theory of Stellar Metamorphosis, Version 4

[2] http://vixra.org/pdf/1608.0072v1.pdf, Chemical Equilibrium in Stellar Metamorphosis