J.Phy.Ast.

Print-ISSN: 2320-6756
Online-ISSN: 2320-6764

Journal of
Physics & Astronomy

WWW.MEHTAPRESS.COM

Full Paper

Peter Filo

Tupolevova 8, 851 01 Bratislava, (SLOVAKIA)
E-mail : filo@novaera.sk

Received: March 10, 2014
Accepted: June 05, 2014

***Corresponding author's Name & Address**

Peter Filo
Tupolevova 8, 851 01 Bratislava, (SLOVAKIA)
E-mail : filo@novaera.sk

Did the life arise earlier than planets?

Abstract

This is a paper from private deduction by the looking for answers of questions: Why the stars explode as supernovae? Why the non-metallic elements are concentrated around the oxygen in the periodic table? When and how did the life arise in the universe? It is only a hypothesis without experiments. The contribution can be considered as an amateur work because it is an amateur work. For real experts, however, could give a different perspective on what is happening in the remote space. In discussion of this matter may give new directions for where and how to look for life in the universe. And that is the purpose of this paper.

Key Words

Supernovae; Periodic table; Oxygen; Stars life; Life arise.

According to the latest surveys follows paradoxical finding of the universe - the universe is rich in water, no oxygen as essential components of water in the spectra obtained from observations of the universe quite rare. Necessarily we must ask ourselves where and how can the water formed in the universe?

One way to this mystery can provide the pictures and spectral analysis of the object M2-9 (Figure 1), originated through the Hubble telescope (1997). They provide not only an extraordinary experience of contact of perishing stars, but also literally encourage to interpret the results of observation, which can lead to surprising conclusions.

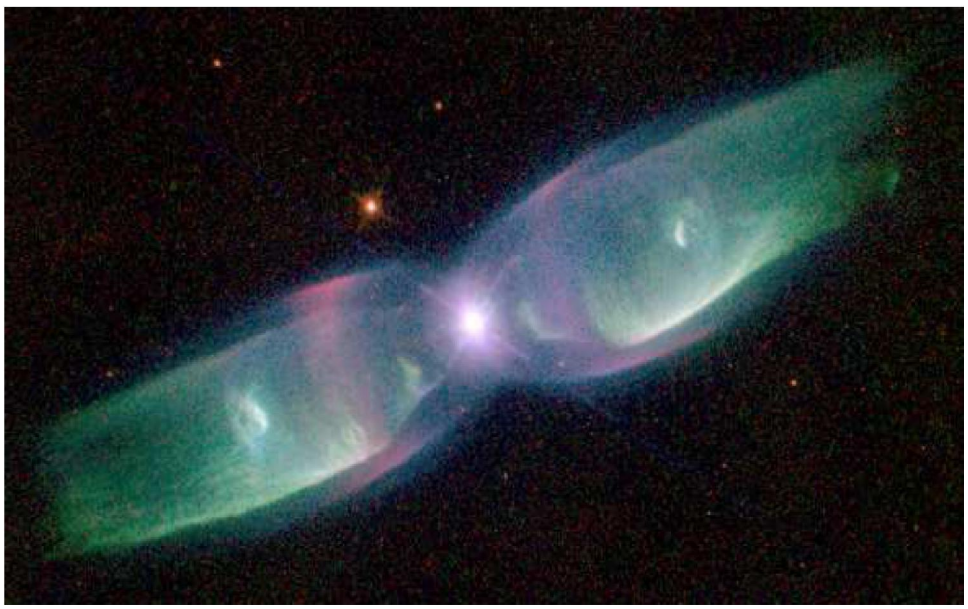

Figure 1 : Photograph of object M2-9 in the constellation Ophiuchus (Wound-star), the divalent oxygen was measured in the blue belt, neutral oxygen in red belt and nitrogen in green belt

On this figure are dominant mainly two elements that actually form namely oxygen (O) and nitrogen (N). Remind that, according to current knowledge, the star produces from hydrogen helium and it is assumed that other elements would be followed, in the sequence, by the periodic table (PT) that is e.g. lithium, beryllium and boron.

H -> He -> ->Li -> Be -> B -> C -> N(-> O) (1)

However, we have to think about, how came at the time of the supernova explosion only to the occurrence of O and N, and why are not seen other elements of considered sequence in PT. Similarly, we can conclude that they dominate the elements O and N in status, when a star right explodes. How can we explain these two findings?

From primary observation is not entirely clear if these gases cause an explosion of the star or are the result of synthesis that during the explosion possibly even would happened. Therefore, we need to define the possible types of reactions, their sequence, entering reactants and products, that I would be possible to find out how elements are formed in a star (space reactor), which elements or reactions act as a detonator, causing the star to explode or what other elements or compounds can after an explosion of stars be formed and what we can find on a place of supernova.

All known stars are from hydrogen. As to present we do not know a reliable explanation of how this primordial element actually arises, we have to mark as a first space synthesis thermonuclear reaction of the second element in the sequence, which is easily observable, e.g. well on our Sun. According to this reaction (2), the four hydrogen atoms (one proton nucleus) participate on origin of one helium atom. Helium has as result in core two protons and two neutrons.

a) $_1H + _1H\ (p^+) ==> {}^1_1D$

c) $^1_1D + _1H ==> {}^1_2He$ (light Helium)

e) $^1_2He + {}^1_2He ==> {}^2_2He + 2\ p^+$ (2)

d) $^1_1D + _1H ==> {}^1_2He$ (light Helium)

b) $_1H + _1H\ (p^+) ==> {}^1_1D$

By this reaction are living star two different forms of life. In oldest stars, retains this reaction perpetual balance with a share of 92% hydrogen and 8% helium. These stars live their life, which ends up by burning out and converting to a red giant star. The giant then expands in space at the expense of their planetary system, till the complete system burn out in plasma, which at first ends in the nearest black hole and leaves the visible universe.

A certain number of stars are beyond the balance of stability and collapse over some time in the form of an exploding supernova. Our Sun is heading towards a supernova, as well, as indicated by the ratio of hydrogen (71%) and helium (27%). Supernova in difference to red giant explodes and disintegrates the planetary nebula, which creates a "raw material base" for the creation of new celestial bodies, planets first.

What is the difference in these two vital processes of the stars? The first reason, why a supernova explodes, is an inhibitor of this reaction. Here, as within other explosions, can play major role oxygen because its presence in the reactor, full of hot hydrogen, creates explosive environment. Even the synthesis of water from hydrogen and oxygen is an explosive character, not to mention how the water itself may influence the physical nature of the reactor (cooling, steam expansion, etc.). These are all the basics for expansion. To create these conditions, it has in the star to arise, as the third in order of elements, to be formed oxygen.

According to the classical theory of synthesis of elements in a star should be carried out a reaction of one helium atom with another atom of hydrogen, and then should start the process of creating of other elements of the PSP till expected gas O. Under this scheme of oxygen- and hydrogen creation, via helium and lithium, it should be group thermonuclear reactions in the synthetic reactions in order, according to (1), where it originated elements of the second row PSP. The first principle is the thermonuclear reactions that they reacted only related nucleus, ergo only nucleus of helium or nucleuses of hydrogen. From the balance point of view, as other, as well, is the system of further connected thermonuclear fusions, based on helium with an outlet at oxygen practically impossible.

As from the reaction of (2) follows, hydrogen produces only helium and it is unable to respond in larger quantities (more than four cores) or at different rates (or two - three cores). This same principle could at the same time explain why most of the old star maintains a balance sheet ratio of hydrogen and helium and are not involved in the creation of other elements.

According to these two principles we may hydrogen from further participation in thermonuclear fusion exclude. All other reactions of this type are based on the consumption of helium. Theoretically, one could consider that two helium nuclei produce metallic beryllium (44Be). This element, however, does not appear in any spectrum of the star, while even in our Sun. There is thus the reaction of

four helium nuclei (two pairs) according to the same principle as the hydrogen reacts.

This reaction we want to call a second thermonuclear fusion (3) and the result of is a synthesis of three helium nuclei through an unstable intermediate of three fused helium nuclei (beg leave their mark as 56 (He + He + He)., This intermediate can be compared to an unstable lightweight helium as a reaction 1-2) and the resulted oxygen arises consecutively according to the same principle as the mere synthesis of helium.

a) $^{2}_{2}He + {}^{2}_{2}He + {}^{2}_{2}He \Longrightarrow {}^{5}_{6}(He+He+He) + {}^{1}_{0}n$

$\downarrow$

c) $^{5}_{6}(He+He+He) + {}^{5}_{6}(He+He+He) \Longrightarrow {}^{8}_{8}O + {}^{2}_{2}He + 2\,p^{+}$ (3)

$\uparrow$

b) $^{2}_{2}He + {}^{2}_{2}He + {}^{2}_{2}He \Longrightarrow {}^{5}_{6}(He+He+He) + {}^{1}_{0}n$

The originated oxygen induces multiple processes in a star and actually it can be described as match processes that in the universe give rise to all chemical elements and compounds. Today, for example, we know that among the most prevalent molecules in our galaxy belongs water (after molecular hydrogen and carbon). Thanks to the first and second thermonuclear reaction (1 and 3) are they easily explicable actions.

In addition, the core of oxygen is already large enough to adsorb alpha or gamma particles and triggered the reaction of nuclear fission (4 respectively. 5), which arises as a result of nitrogen and then other elements in PT:

$^{8}O \Longrightarrow {}^{7}N + {}^{1}_{0}n$ (4)

resp.: $^{7}N \Longrightarrow {}^{6}C + {}^{1}_{0}n$ (5)

Oxygen reacts directly with hydrogen, which is in the future supernova present in sufficient concentration and water is comes into existence. Establishment of water changes the actual characteristics of the stellar core, which then leads to the explosion.

Looking at the image of supernova M2-9 is likely that these two reactions (formation water and the nitrogen), can run in parallel. In such case are in a star already present elements of H, He, O, N, and also the conditions are created for chemical reactions with oxygen and nitrogen, or hydrogen and each other. Consequence of classical chemical synthesis is also significant change of character of stellar reactor (temperature drop, pressure change, etc.) and the star is ready to explode.

The stated hypothesis simultaneously explains why nitrogen and oxygen gaseous substances are, although in PT are they positioned in fifth place or sixth group. This area of PT is indeed the most interesting part, because on the right, on the left and down from oxygen are non-metals only! If, despite the size of the oxygen nucleus (eight protons and eight neutrons) also admits a third thermonuclear fusion of a pair of oxygen, we win sulfur ($^{16}_{16}S$). Next, they follow the first nuclear fissions, in which f.e. arises from nitrogen carbon; sulfur produces phosphorus. Only later are created relatively few reactive metals, but the star has a star already behind its death.

The most important discovery of this hypothesis would be the fact, that as first in space are created organic elements (H, O, N, C, P, and S). It would be resumed the assumption that organic compounds, and self-evident the living organisms occur in the environment of planetary nebula, that arise much earlier than the planets themselves (Figure 2).

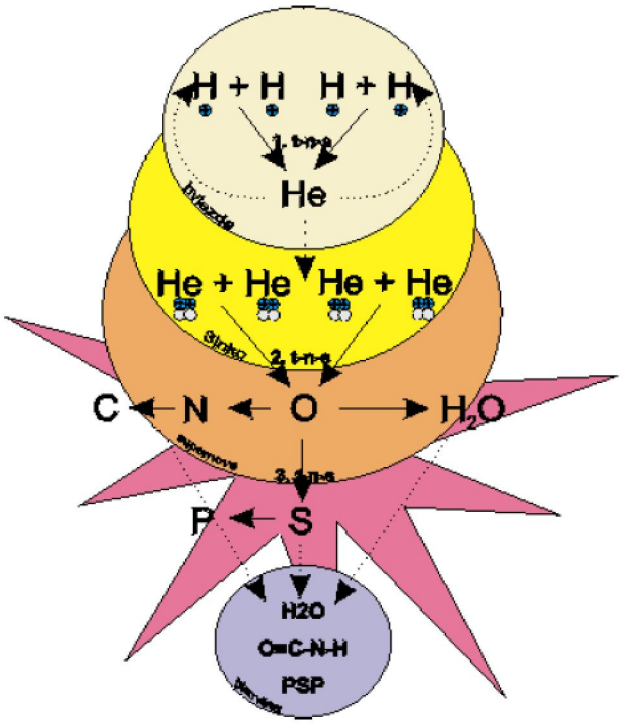

Figure 2 : Sequence of formation of elements in the first, second and third thermonuclear reaction (TNS) compared to the main sequence stars

CONCLUSION

In conclusion we may state, that it is therefore just oxygen, which starts theater space, known as supernova.

Due to the oxygen they are created, in rapid succession, other non-metallic elements (nitrogen, carbon, sulfur and phosphorus) and water at the same time, as the first space hetero compounds. All these elements and their compounds are at the same time the basic building blocks of live organisms. If our task is to find in nondescript and viewable universe other places suitable for life, or even entire civilizations, then we have a fairly reliable compass - localization of the place, where explode the observable supernovae. If this hypothesis had to be confirmed, it´s remain just one question - how does really arise hydrogen in the universe? This question we discuss in next paper.

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