

Chemical Evolution of the Universe

Part 10



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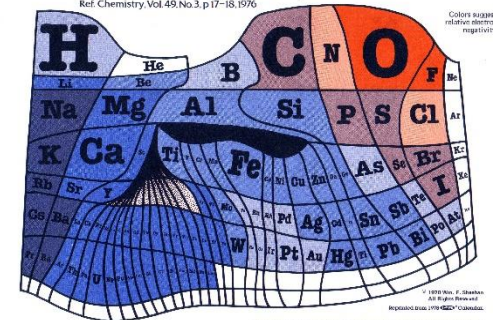
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1. Cosmological background
2. Primordial nucleosynthesis
3. Stellar structure, nucleosynthesis and evolution
- 4. Neutron capture processes**
 - 4.1 The s-process
 - 4.2 The r-process
 - 4.3 The p-process
5. Cosmic ray spallation
6. Galactic chemical evolution
7. Chemical evolution in the intergalactic medium



The Elements According to Relative Abundance

A Periodic Chart by Prof. Wm. F. Sheehan, University of Santa Clara, CA 95053
Ref. Chemistry, Vol. 49, No. 3, p. 17-18, 1976

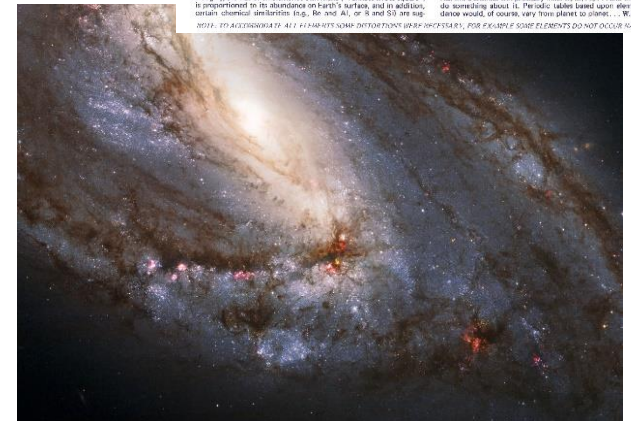


Colors suggest
relative electro-
negativity

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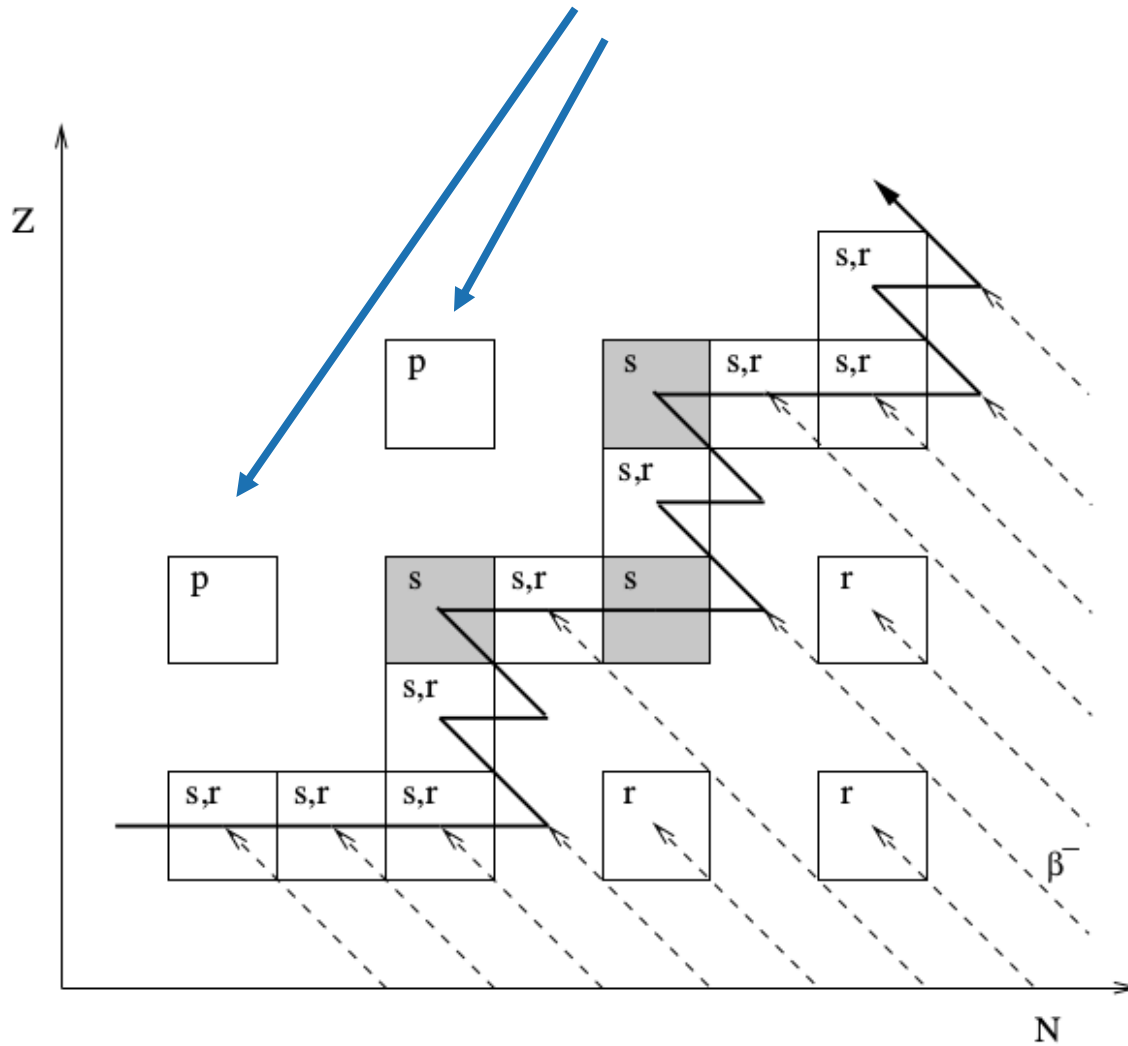
Roughly, the size of an element's own niche ("almost square square") is proportional to its abundance on Earth's surface, and in addition, certain chemical similarities (e.g., Be and Al, or R and SO) are suggested by the positioning of neighbors. The chart concludes that in real life, a chemist will probably meet O, Si, Al, ... and that he better do something about it. The table takes upon elemental abundance would, of course, vary from planet to planet. ... W.F.S.

NOTE: TO ACCURACIALLY ALL ELEMENTS SOME INFORMATION UPON UNUSUAL, FOR EXAMPLE SOME ELEMENTS DO NOT OCCUR NATURALLY.

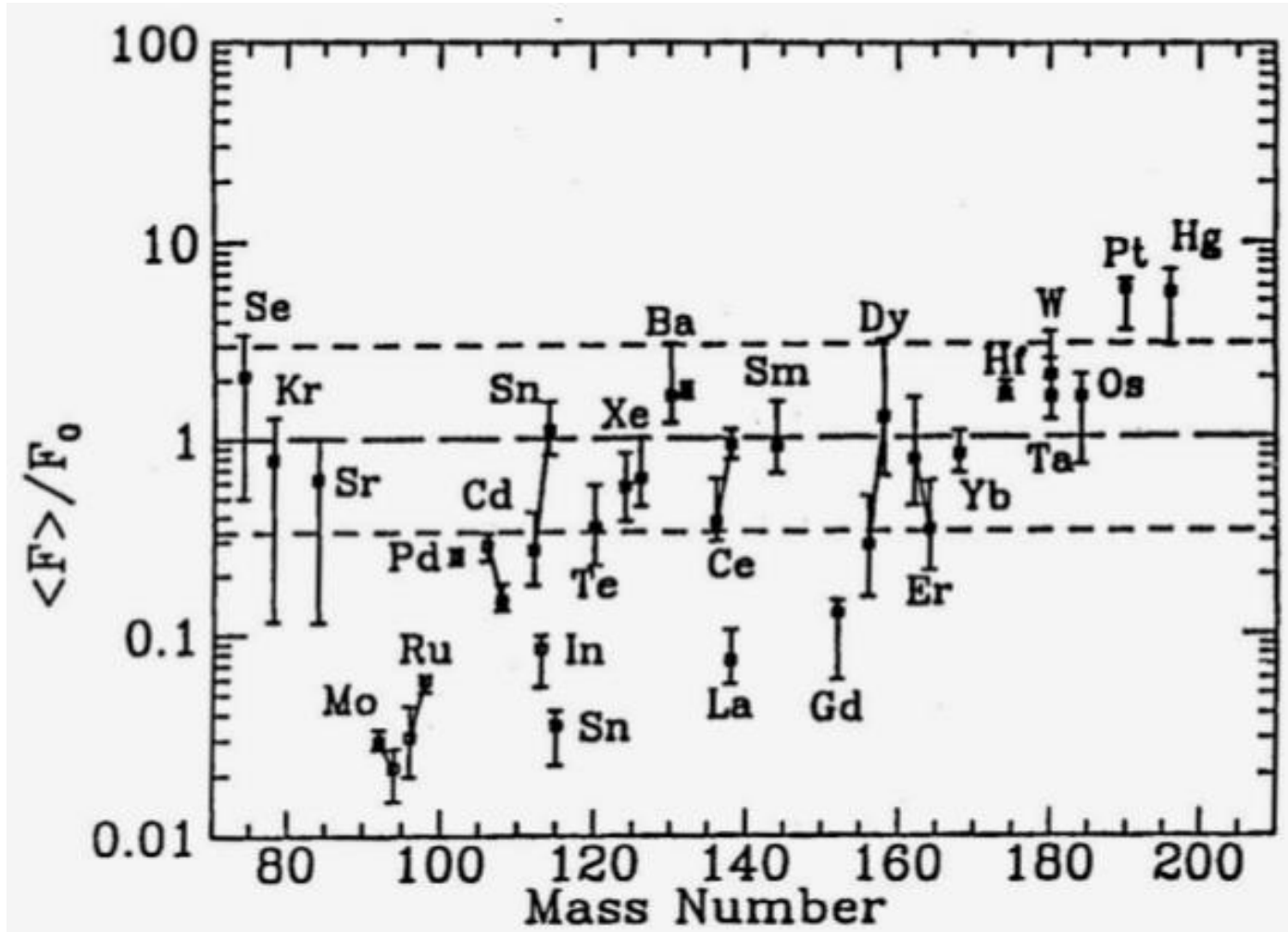


4.3 The p-process

- ◆ s and r-processes cannot form n-poor nuclei



4.3 The p-process



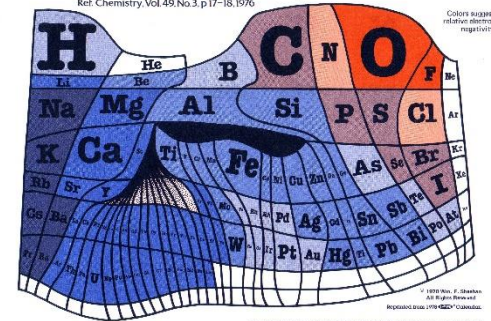
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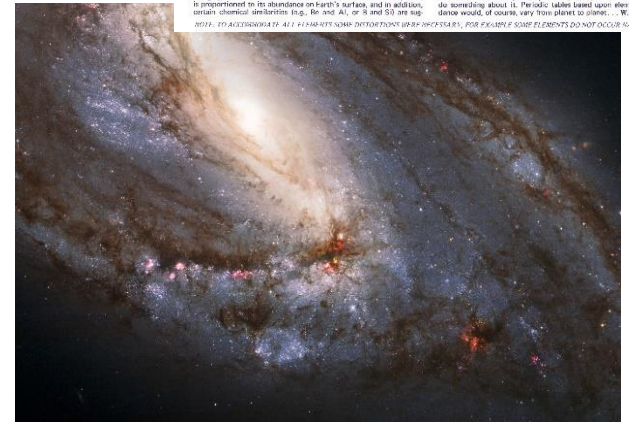


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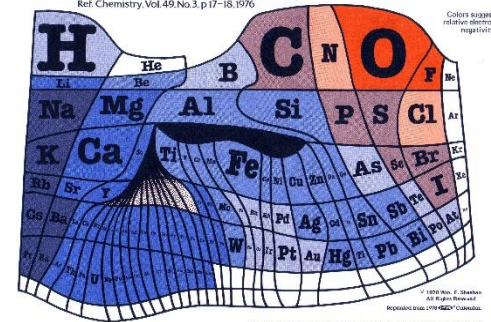
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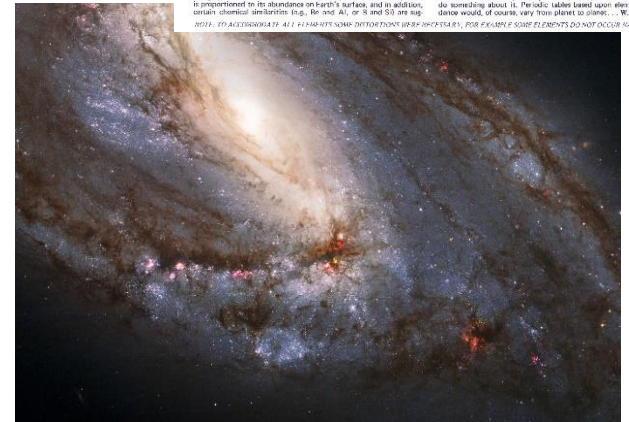


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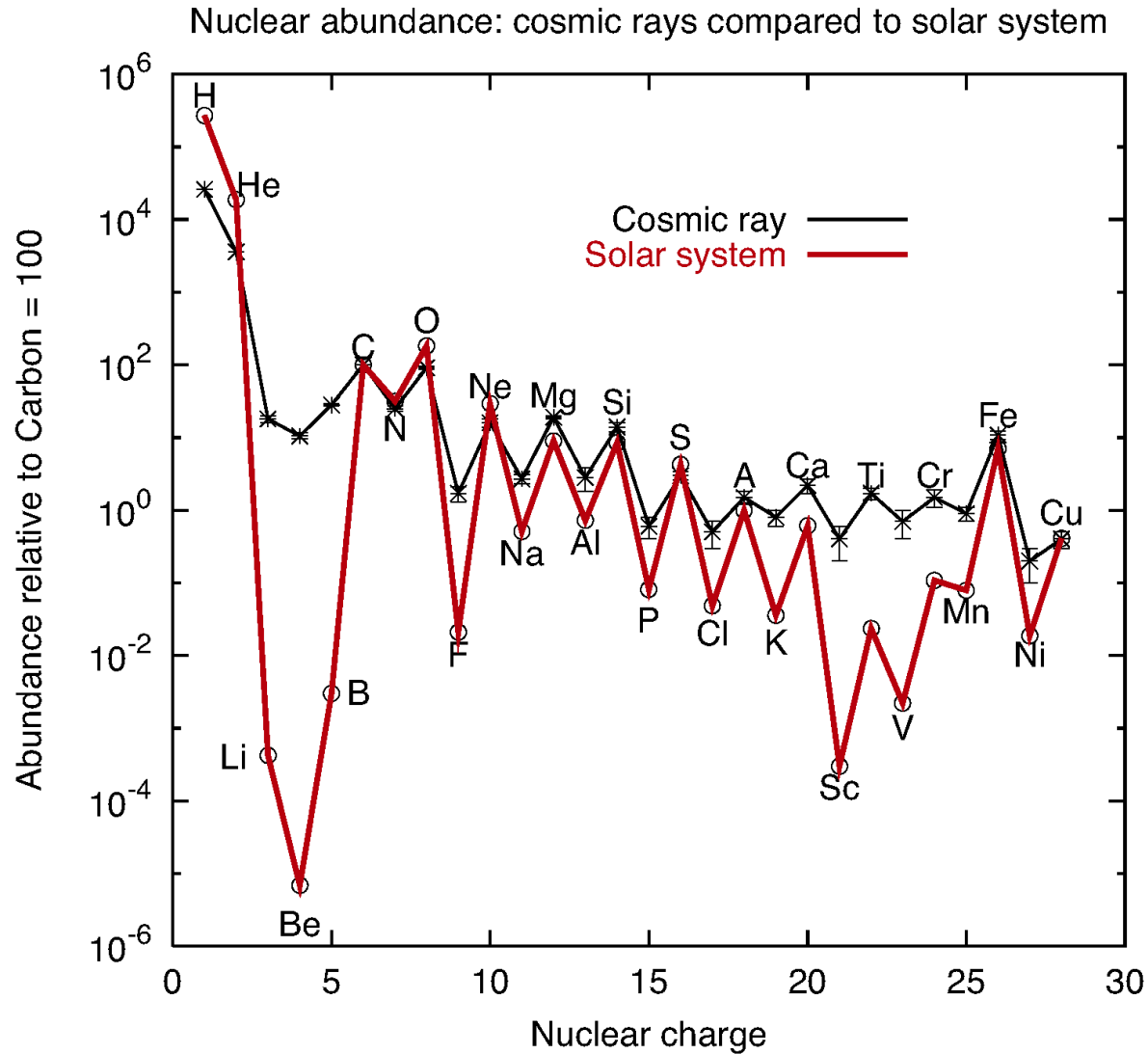
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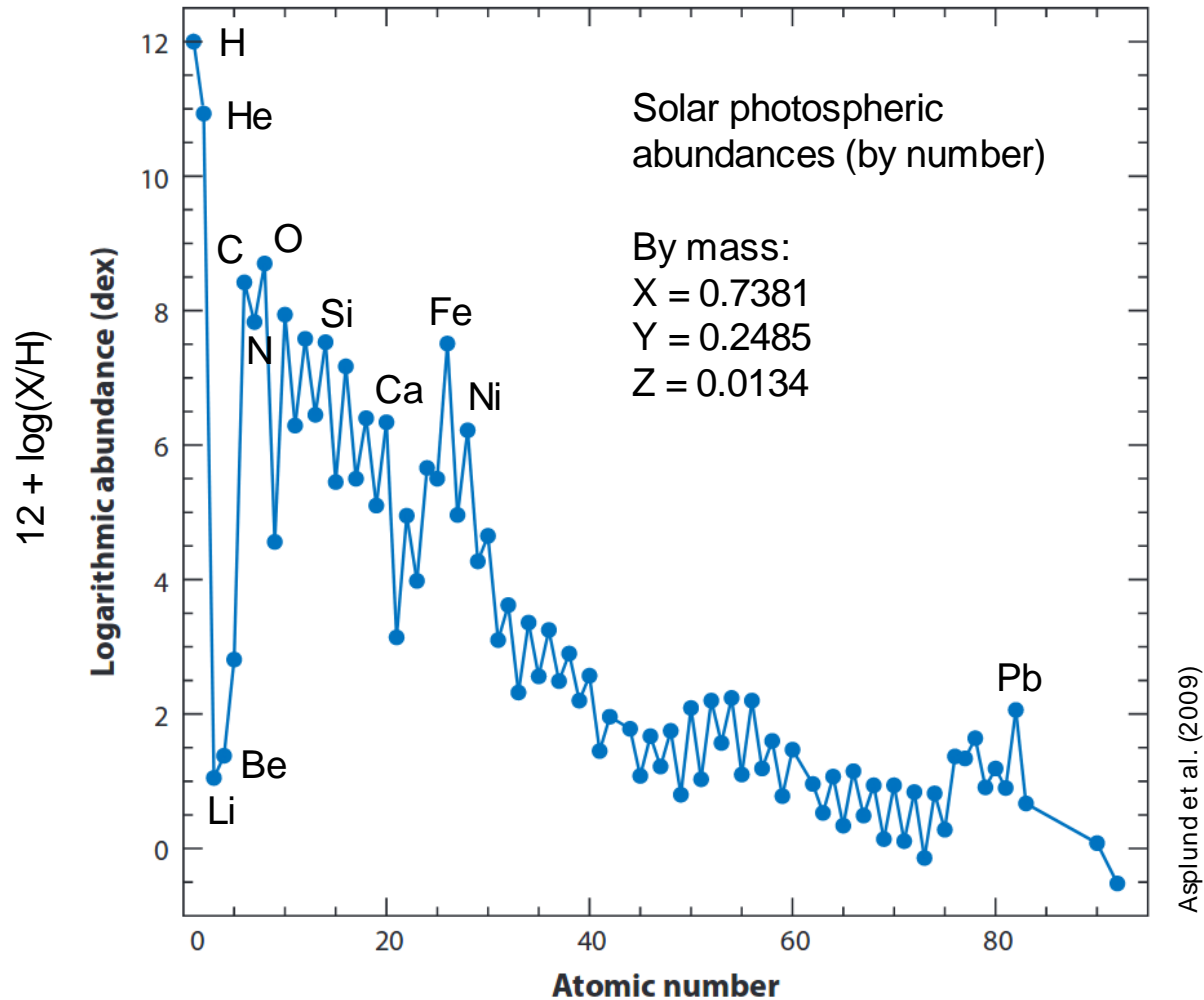


5. Cosmic ray spallation

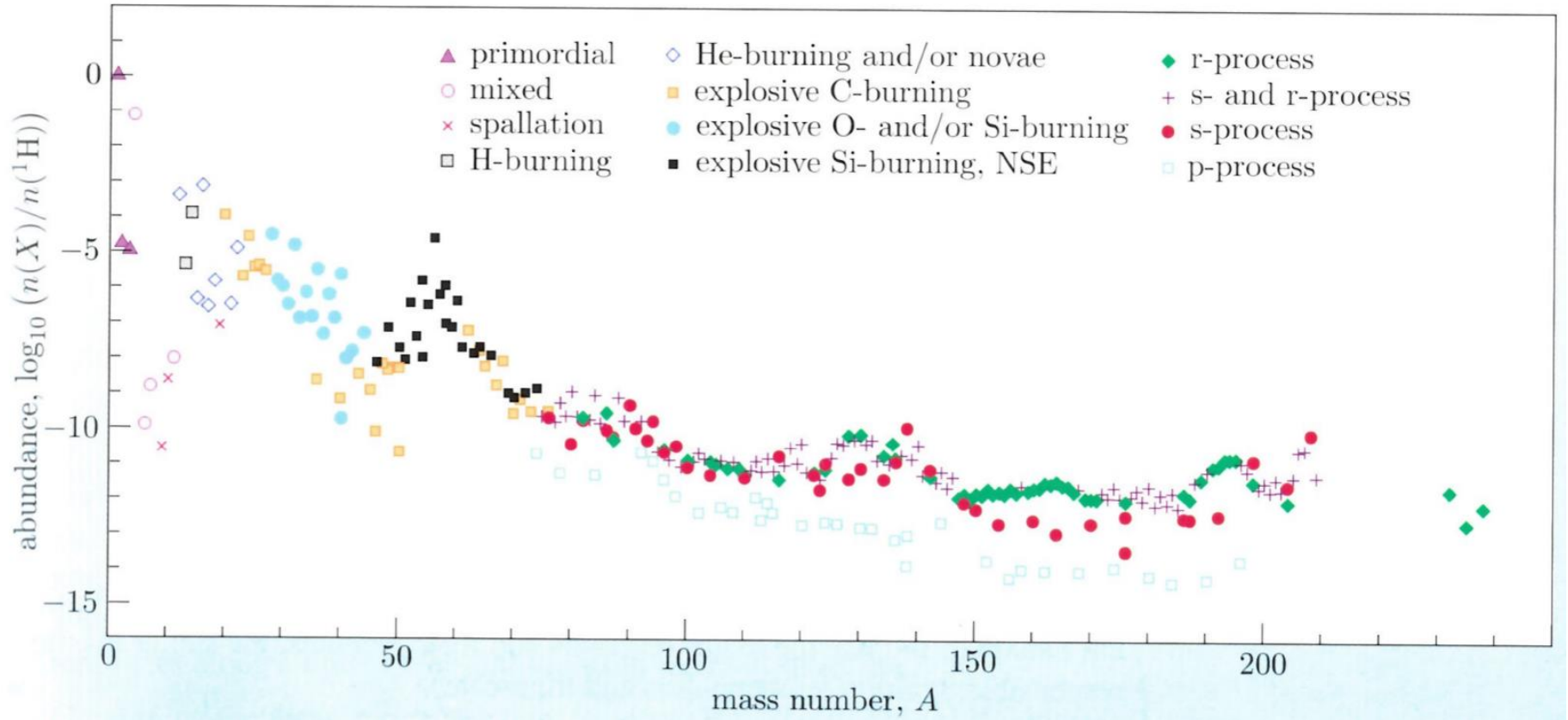


Goal of this course

- ◆ Our goal is to understand this plot:

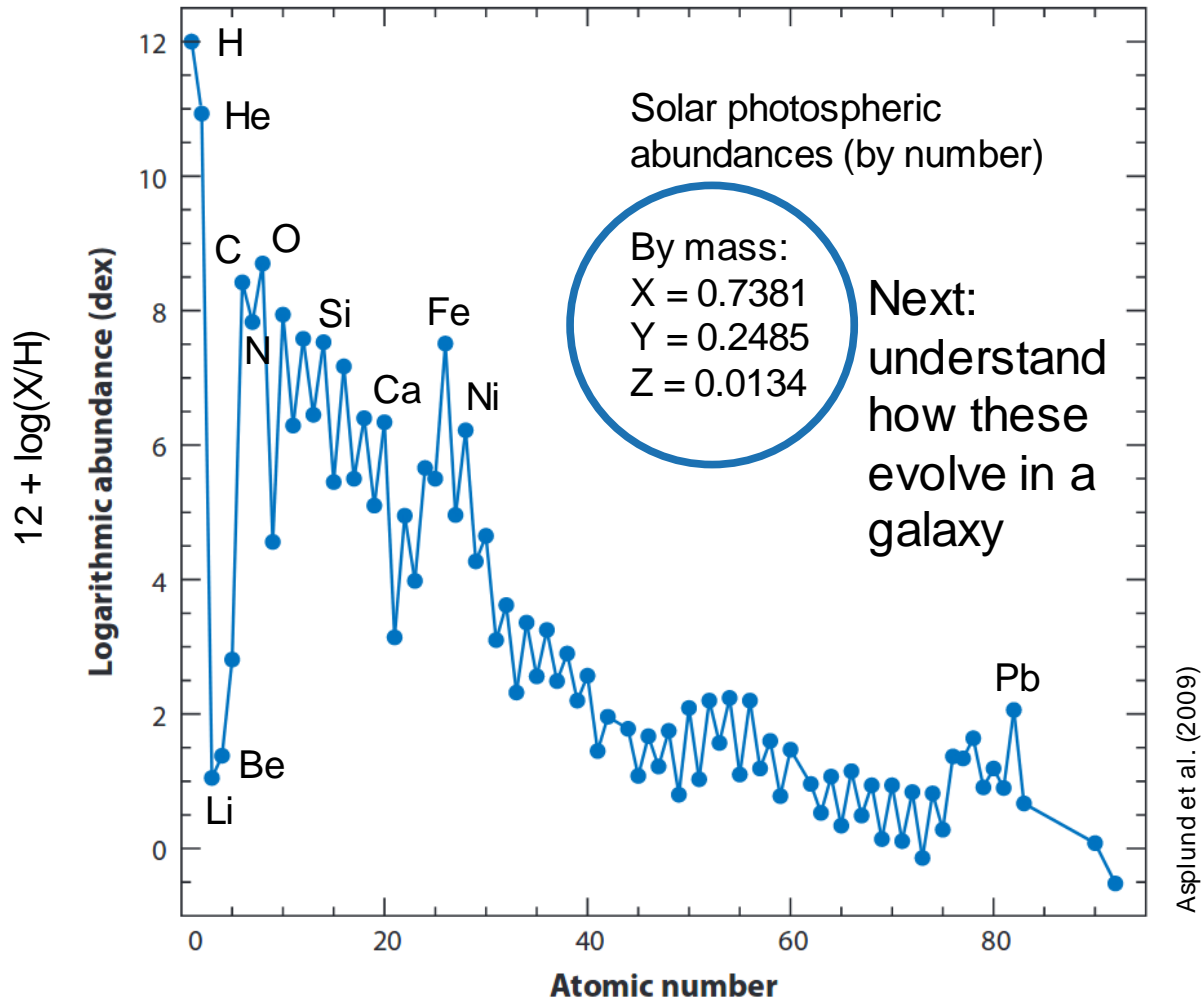


Summary of origin of nuclei



Goal of this course

- ◆ Our goal is to understand this plot:



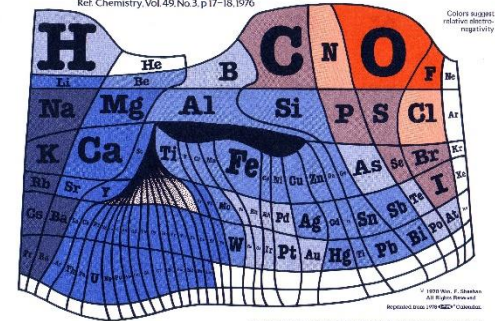
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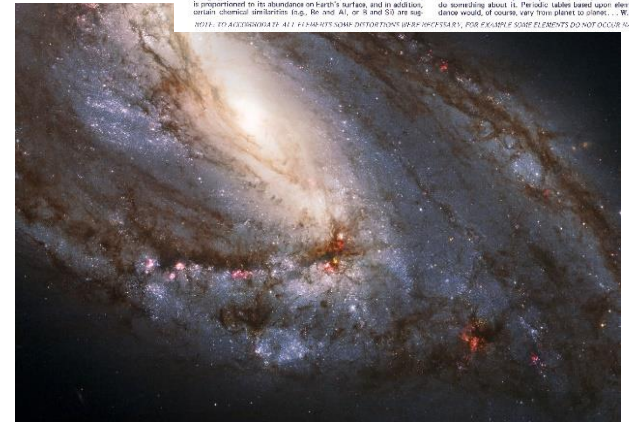
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6. Galactic chemical evolution

