ORIGIN OF THE SOLAR SYSTEM AND ITS CHEMICAL ELEMENTS. O. Manuel, Chemistry Department, University of Missouri, Rolla MO 65401, USA.

Chemical and isotopic compositions of meteorites, the solar wind, solar flares, and planets provide evidence for local synthesis of the chemical elements and formation of the solar system from heterogeneous debris of a supernova that exploded axially [1], as shown in Fig. 1. Such explosions produce the bipolar nebulae recently seen with the Hubble telescope. [2].

Fig. 1 is a more viable explanation for isotopic anomalies and short-lived radioactivities in meteorites than addition of 10^{-4} parts of exotic nucleo-genetic material to 0.9999 parts normal solar system material [3,4] and offers a natural mechanism for properties (a-j) of the Sun, its planetary system and other stellar objects that are unexplained by exotic additions: (1) chemical stratification of the planetary nebula [5]; (2) heterogeneous accretion of the terrestrial planets [6]; (3) interlinked chemical and isotopic heterogeneities in the nebula [7]; (4) "mirror-image" isotopic anomalies in meteorites [8]; (5) grain-size dependent levels of extinct ^{26}Al in meteorites [9]; (6) grain-size dependent isotopic anomalies in meteorites [10]; (7) diffusive enrichment of hydrogen and lighter isotopes of other elements at the solar surface [11,12]; (8) disruption of intrasolar diffusion to produce less anomalous isotope ratios in solar flare particles [13]; (9) planets orbiting a collapsed supernova core, PSR 1257+12 [14]; (10) the formation of planets in a rotationally-supported disk of super-nova debris that orbits the collapsed supernova core [15].

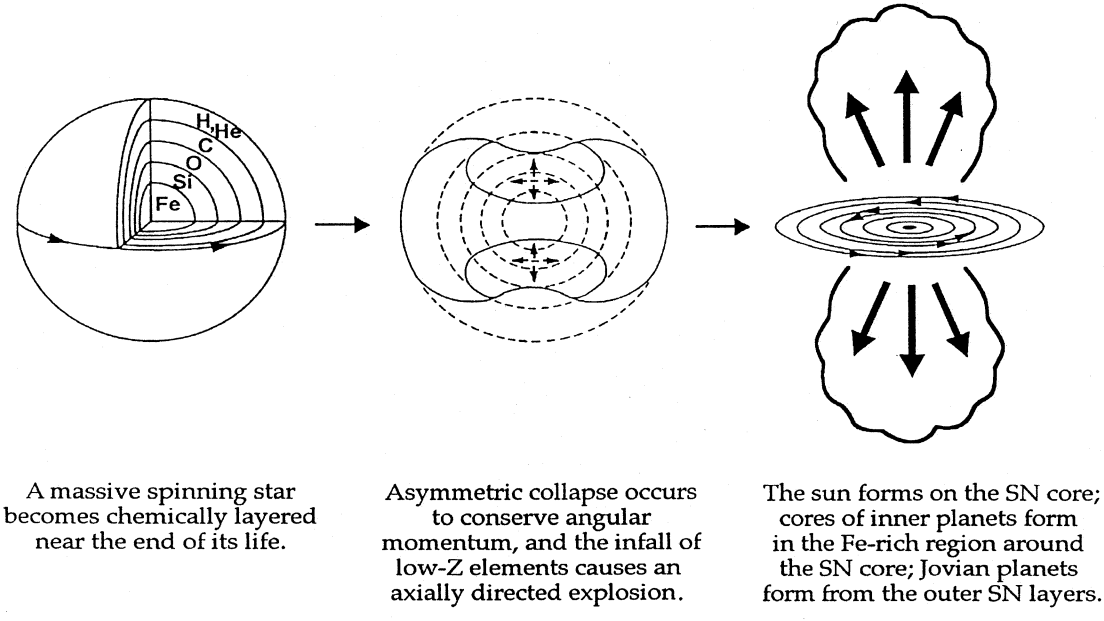

Fig. 1. Heterogeneous debris of a supernova produced the solar system [1].

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