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The naturalistic formation of planets exceedingly difficult

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The way some scientists talk about planet formation, one would think that the process was easy:

> 'Our solar system was built from the dust of dead stars. It's an often-repeated fact.'[1]

Planet formation is just one of the many hypothetical evolutionary processes that started with the big bang and ended with humans on Earth after many billions of years. Since planets exist, evolutionists reason they 'must' have formed from a dust cloud called a nebula. The dust must first develop from dead stars because dust does not just develop from gas molecules. So the dust is believed to have 'evolved' from the explosion of a star in a supernova. Hence our solar system is believed to be the result of a collapsed dust cloud from an exploded star. These are the simple naturalistic deductions, assuming evolution is the only mechanism.

Many people are satisfied with this scenario and take it no further. But if an inquiring person were to ask how the planets actually formed from the dust, he would get a surprising answer:

> 'But if you ask how this dust actually started to form planets, you might get an *embarrassed silence.* Planets, it seems, grow too fast—no one knows why the dust clumps together so quickly'[1] [emphasis mine].

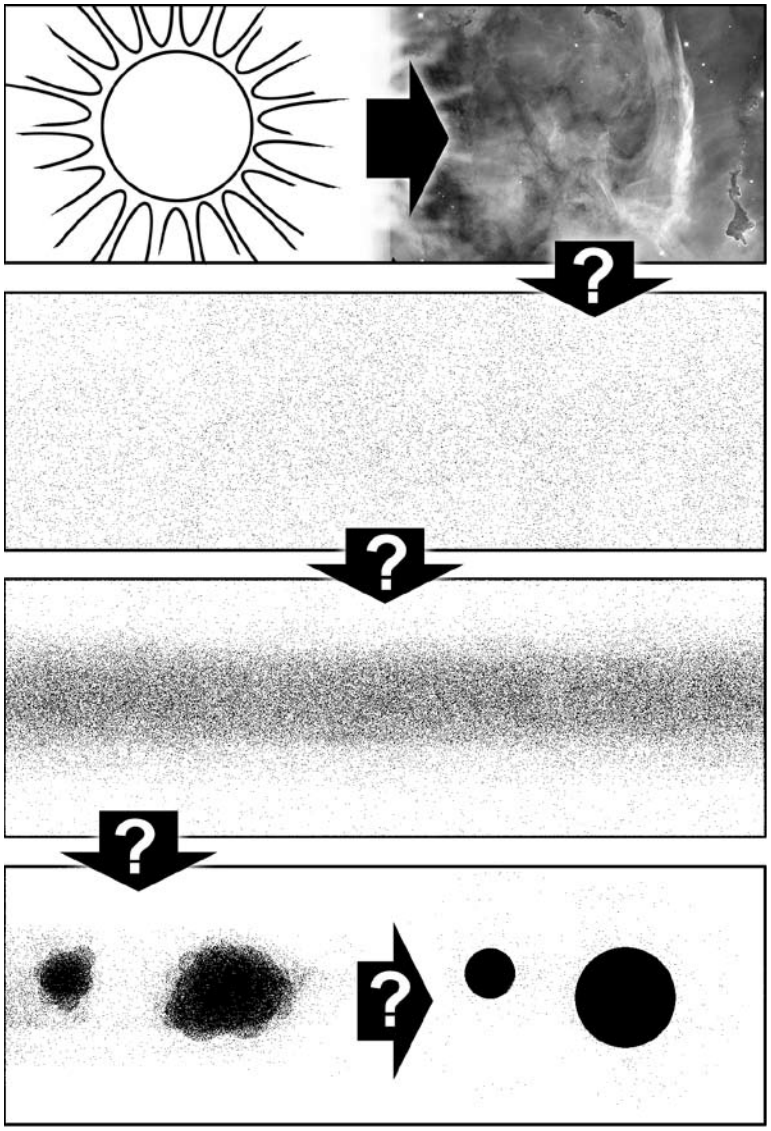
This, among other theoretical processes in the big bang scenario, is actually held by faith. (The formation of stars has similar challenges as planet formation.[2] The main difference is that stars accumulate more mass from the dust cloud. Since star and planet formation have similar problems, for the sake of simplicity, I will only discuss the naturalistic origin of planets.) A recent article in *New Scientist* admits that forming a planet naturalistically is exceedingly difficult.[3]

There are four stages in the supposed evolution of planets:

> 'A successful nebular model must account in some detail for four important stages in the solar system's evolution: the formation of the nebula out of which the planets and sun originate, the formation of the original planetary bodies, the subsequent evolution of the planets, and the dissipation of leftover gas and dust. Modern nebular models (there are more than one!) give tentative explanations for these stages, but many details are lacking. No one model today is entirely satisfactory.'[4]

For the sake of argument, I will just assume that the dust is leftover from a supernova explosion. This is the first stage. Then according to Laplace's nebular hypothesis, first presented in 1796, the process of planet formation, the second stage, begins with the simple collapse of the dust cloud. There are three theoretical steps in the collapse of the dust cloud and the growth of a planet: 1) gravitational contraction of the dust into small particles, 2) accretion of particles or small aggregates to form large aggregates, and 3) condensation by the accumulation of atoms and molecules on the growing mass.[5]

The most difficult step is the first, gravitational contraction of dust to form small particles. Dust grains must first accrete to form small particles, which must continue to grow until they are at least 10 m in diameter. This size is the point at which gravity is expected come into its own, accreting and condensing material at a faster and faster rate. Then supposedly, planetesimals would form that are many kilometres across. The planetesimals are finally envisaged to collide to form planets. There are difficult problems with these later steps, but I will focus on the first step: how does the dust collide, stick together and grow before gravity can assert itself? That is the big question. The tiny dust particles must hit each



A proposed theory of planet formation from accreted stellar material. Remnants from an exploded star produce the raw material. Though this material is thought to accrete through gravitational interaction, the effect of gravity is too small to allow this to happen in the timeframe proposed by evolution. There is also the question as to whether the small particles would coalesce under the influence of gravity at all.

other head on and stick.[1] The process (which is speculative anyhow) is too slow, especially in cold regions of space, according to astronomers. A number of hypotheses are in vogue, but all seem to have fatal flaws.[3]

Steinn Sigurdsson has given up on all the proposed hypotheses because of the extreme unlikelihood that any of them ever occurred. Since planets have obviously formed and they must hold onto their evolutionary belief, he suggests a desperate alternative:

> ' … there could be an extra dimension of space in which gravity alone acts and which until now has gone unnoticed. If this is so, then gravity—which is weak over large distances—gets stronger at the tiny distances encompassed by the extra dimension … .'[6]

In other words, he suggests that gravity would extend into five space dimensions instead of three and would be very strong at very short distances, causing dust and small particles to attract and stick together by gravitational attraction. This would certainly make planet formation much faster and easier. But, there is at least one delicate problem with this imaginative hypothesis—the dust grains cannot hit too hard or the incipient particle would break apart:

> 'So the turbulence within the disc [flat dust cloud] can't be too strong, and the acceleration caused by Sigurdsson's modified gravity can't be too extreme.'[7]

The idea is actually testable. So far, Newton's law of gravity still holds down to 218 μm, but experiments are underway to test it at even closer distances.[7] Sigurdsson hopes that his supergravity mechanism will show up when they test gravity at less than 80 μm. It seems to me that *if* he is correct, there is still the 'sticky' problem of how such a small particle can grow larger than 218 μm, above which his hypothetical mechanism would not apply.

Sigurdsson is likely correct that all hypotheses for planet formation are wild guesses. It is even more likely that his guess is even wilder than most, as many astronomers believe. That leaves nothing to explain the development of the planets, at least using natural processes over long periods of time. A straightforward reading of the evidence at hand and the state of the many hypotheses and problems is that planets *did not form naturalistically but were supernaturally created.*

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