

Comments on the article "Formation of Planet Earth in Light of the Laws of Classical Physics"

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Abstract

This article provides explanatory comments on a previously published paper. It proposes a new theory about the origin of the planets of the solar system and simultaneously critiques the dominant theory of planet formation. The planets of the solar system formed as a result of the ejection of matter from the Sun. Initially, these clumps of matter revolved around the Sun in elliptical orbits. All conclusions are based on the concepts of classical physics, thermodynamics, and Newtonian mechanics. A theory about the origin of the continents on planet Earth is also proposed (a critique of the "continental drift" theory). The article presents illustrations on the origin of the planets and the formation of their orbits. An illustration of a collision between planet Earth and a celestial body is also presented. The collision occurred due to the intersection of the orbits of both celestial bodies. The collision resulted in the formation of the continents as they exist today.

Keywords: Solar System, Earth Collision, Law of Cooling of Matter, Continental Drift

Introduction

First of all, it should be noted that the proposed articles reject the generally accepted version of the origin of the planets in the solar system. The generally accepted version posits that the planets formed as a result of numerous collisions of protoplanets, through the collision of solid-phase objects, and the conversion of their kinetic energy into thermal energy, leading to a change in the aggregate state from solid to liquid [1]. This version contradicts all the laws of physics and thermodynamics. Yes, during the collision of solid bodies, some of the kinetic energy is transformed into thermal energy. However, this thermal energy is absolutely insufficient for the transition of matter from solid to liquid. There are no analogues of this process in nature. Such a process is impossible even in laboratory conditions.

There is a generally accepted framework for the development of scientific knowledge. The basic principles of scientific development can be divided into several aspects, ranging from fundamental principles to applied research. At the heart of science lies the pursuit of objective knowledge of the world, the use of experiment and observation, and the logical justification

of conclusions. The development of science can be viewed as a movement from fundamental research aimed at understanding the fundamental laws of nature and society to applied research that uses this knowledge to solve specific problems.

The proposed theory of the origin of the planets of the solar system is based on the fact that the material from which the planets formed was the matter of the Sun itself. The origin of the Sun and the planets of the solar system is based on the second law of thermodynamics [2]. This law, applied to objects in the Universe, is presented in the article "A Closed Cycle of Matter Transformation...." According to these concepts, the entire visible Universe is in a state of expansion within this closed cycle [3,4]. All processes are subject to the second law of thermodynamics, the law of cooling of matter. All processes proceed from a higher temperature potential to a lower temperature potential. In this process, matter is transformed from one state of aggregation to another, in accordance with the temperature potential.

Main part

A. The origin of the planets of the solar system

Thus, according to the second law of thermodynamics, matter can transform from a state of high temperature potential to a state of low temperature potential without external heat input.

Only matter with a high temperature potential could have served as the source material for the formation of planets. In the solar environment, this could only have been the Sun itself. Currently, the Sun exhibits a phenomenon called prominence ejections. It is quite possible that the ejection of some hyper-prominence served as the source material for the formation of planets. The ejection of an ordinary prominence could well serve as a model for this process. From this model, we can see that matter, as it moves, breaks apart into separate pieces and, as it loses kinetic energy and cools, returns to the surface of the Sun. This return occurs under the influence of gravity. The trajectory of the matter has the momentum to form an elliptical orbit. Accordingly, future orbits are coplanar and elliptical in shape (Figure 1).

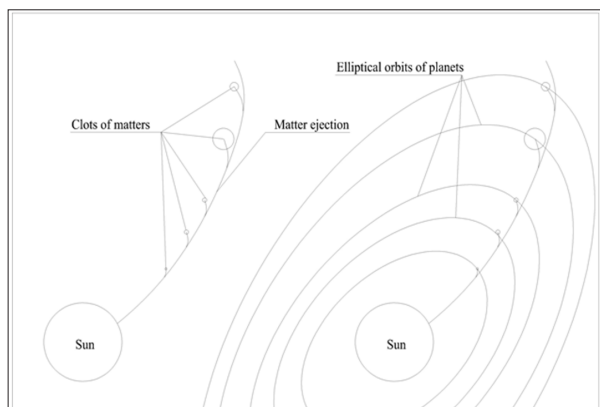


Figure 1: Ejection of solar matter and formation of planetary orbits

It's entirely possible that the orbits received some kind of impulse from the precession process, with the orbital axes shifting while remaining in the same plane (Figure 2). Yes, the planets' orbits are currently circular or nearly so.

The mass of the Sun is approximately 745-750 times greater than the combined mass of all the planets in the Solar System. Given this mass ratio between the Sun and the planets, the ejection of a hyper-prominence is entirely possible. The temperature and state of matter of the hyper-prominence naturally corresponded to those of the solar material. Naturally, as the material cooled further, its state of matter changed. As a result, the planets formed in the state we observe today.

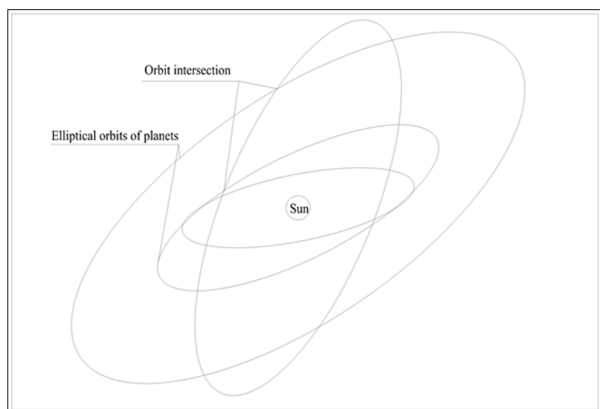


Figure 2: Elliptical orbits taking into account precession

B. Collision of the Earth with a celestial body.

Given the elliptical shape of the orbits and the precession of the

orbits, a situation could well arise where the celestial bodies could collide (Figure 3).

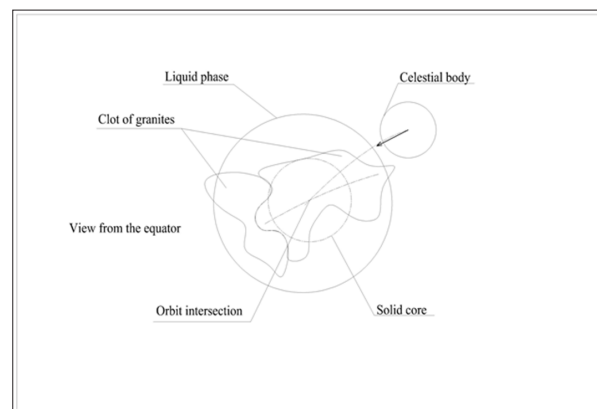


Figure 3: Beginning of the collision

It should also be noted that it is most likely that the bodies were moving in the same direction. If they had been moving in opposite directions, the consequences of the collision would have been catastrophic for both bodies. At the time of the collision, the Earth was much hotter than it is today. Its appearance more closely resembled that of modern Venus. Earth's water was in the form of vapor, a gaseous phase. The Earth's atmosphere was a powerful dust-gas phase. The Earth's crust began to form as a clot of future granites. The centrifugal forces of the Earth's rotation fused the granites into a single clot. The aggregate state of this clot was a rigid-plastic mass. The rudiments of the Earth's crust, in the form of sedimentary rocks and future basalts, were located on the Earth's surface and also lacked the characteristics of a solid phase. The celestial body that collided with the Earth had a much smaller mass; accordingly, its temperature potential was much lower, and its aggregate state was generally closer to that of a solid. During the collision, the celestial body passed unimpeded through the Earth's atmosphere, with the liquid phase offering little resistance. The Earth's solid core provided the primary resistance. It's also worth noting that during the collision, the Earth was stretched into an elliptical shape, and the Earth's solid core shifted and struck the granite cluster from the inside. The impact of the core on the granite cluster caused it to rupture (Figure 4).

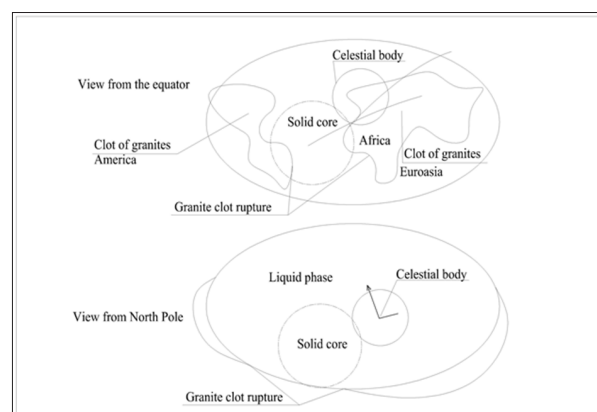


Figure 4: The collision process. The rupture of a granite clot

The rupture occurred between the western parts of modern-day Africa and Eurasia on one side and the Americas on the other. After the celestial body collided with the Earth's core, it changed trajectory, lost some of its kinetic energy, flew off, and

came under significant gravitational influence from the Earth. Following the collision, the Earth, under the influence of gravity, assumed a spherical shape. The rudimentary Earth's crust, in the form of basalts, recorded the rupture of a cluster of granites, the future continents (Figure 5).

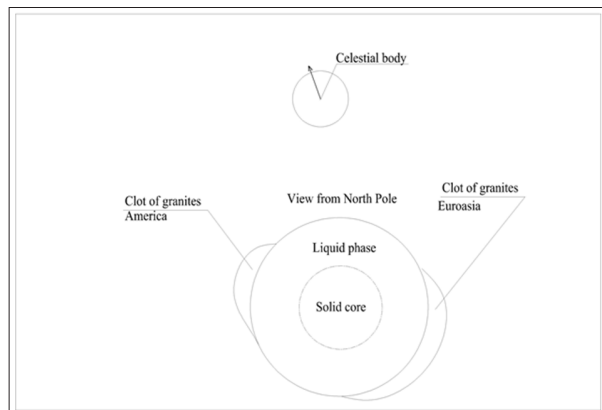


Figure 5: Fixation of granite rupture

C. Consequences of the collision

Thus, as a result of the collision, Earth gained a satellite—the Moon. The rupture of a granite clot divided the landmass of modern Earth into several continents. In the early 20th century, the "baked apple" model of Earth dominated scientific thought. The modern theory of "continental drift" does not correspond to reality. There is plate displacement, but not movement. Plate displacement is consistent with the baked apple model. As matter cools, it decreases in volume; this decrease leads to compression, and compression leads to displacement.

The Andes, Cordillera, Tibet, and Himalaya mountain ranges are the rims of the crater left by the Earth's collision with a celestial body. At the moment of impact, it is entirely possible that individual chunks of the solid, ductile phase of the Earth's crust were thrown upward. It is quite possible that these chunks, upon falling back to the Earth's surface, formed the basins of today's Caspian, Black, Azov, and Mediterranean seas.

Conclusions

As stated in the preface, "Science is based on the pursuit of objective knowledge of the world." Objectivity is required of science. Science should not be led by wishful thinking. Research and conclusions must rely on fundamental concepts and avoid fictitious notions. For example, in nature, independent of our consciousness, the second law of thermodynamics operates [5]. In this and other articles, this law is called the law of cooling of matter. According to this law, matter undergoes transformations in nature, changing its states of aggregation and other properties.

When two solid bodies collide, the kinetic energy of their previous motion can be transformed into thermal energy. However, the amount of this new thermal energy is clearly insufficient to change the state of aggregation of these bodies. Yes, in some cases, new thermal energy can initiate a chemical reaction that can increase the amount of thermal energy and change the state of aggregation.

However, this is only possible in specific cases or under laboratory conditions. In this case, an additional portion of thermal energy is generated from the internal energy of these bodies. In any case, this does not contradict the second law of thermodynamics.

Given that there are currently several hypotheses regarding the Moon's origin [6]. The collision mechanism presented in this article must also be considered hypothetical. The proposed version is supported by the following evidence: the tilt of Earth's axis, the disruption of a granite mass on Earth's surface, and the meteor showers occurring in August. If the collision took place in June, for instance, it is quite possible that the cloud of meteoroids, or the cloud of debris—drifted into the position corresponding to the August phase due to inertia during the time following the impact.

The formation of planets, according to the currently accepted theory, does not assume elliptical orbits. Yet, it is precisely this orbital shape and orbital precession that can lead to collisions of celestial bodies.

This article indirectly criticizes the theory of "continental drift." A new understanding of the formation of the continents of planet Earth is proposed. Almost all rocks show traces of thermoplastic deformation. Of course, criticism of the theory of "continental drift" is a separate topic.

Off topic, but about the law of cooling of matter. Traces of erosion similar to water erosion have been discovered on the surface of Mars. The scientific community has wondered: where is the water? It is quite possible that water was on the surface of Mars. However, as time passed, so did the cooling process, and during this cooling, the thickness of the Martian crust increased. The amount of water remains constant, while the pore volume of the crust increased. Over time, the water became trapped in the pores of Mars's crust.

This demonstrates that all natural phenomena must be viewed dynamically.

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