



# Saturn's Golden Age

The age that man later called the Age of Kronos (Saturn) was remembered with nostalgia as an age of bliss. References to the Age of Kronos in the ancient lore are very numerous.<sup>(1)</sup>

Hesiod tells of

A golden race of mortal men who lived in the time of Kronos when he was reigning in heaven. And they lived like gods without sorrow of heart, remote and free from toil: miserable age rested not on them . . . The fruitful earth unforced bare them fruit abundantly and without stint. They dwelt in ease and peace upon their lands with many good things. . . .<sup>(2)</sup>

Similarly writes Ovid in the sixth book of his *Metamorphoses*:

In the beginning was the Golden Age, when men of their own accord, without threat of punishment, without laws, maintained good faith and did what was right. . . . The earth itself, without compulsion, untouched by the hoe, unfurrowed by any share, produced all things spontaneously. . . . It was a season of everlasting spring.<sup>(3)</sup>

Rabbinical sources recount that men lived under very favorable conditions before the Deluge, and that these contributed to their sinfulness: "They knew neither toil nor care and as a consequence of their extraordinary prosperity they grew insolent."<sup>(4)</sup>

The dominance of Saturn at some remote period in the history of the life of the peoples on Earth was of such pronounced and all-pervading character that the question arises whether the adventures of the planet going through many exploits could by itself be the full cause of the worship of the planet and the naming of the Golden Age "the Age of Kronos" (Saturn). Saturn exploded and caused the Earth to go through the greatest of its historical catastrophes, and this was completely sufficient to make of Saturn the supreme deity; but it appears that the Age of Saturn is a name for the epoch *before* the Deluge; after the Deluge Saturn, dismembered, almost ceased to exist as a planetary body and when at length it was reconstituted it was fettered by rings, and was far from being the dominant celestial body that would behoove it as the supreme deity of the epoch. The "Age of Kronos" is so glorious an age that it is hardly thinkable to connect it with the period after the Deluge. The wailing for Adonis, Tammuz of the Babylonians, or Osiris of the Egyptians, deplored the end of its dominance, not the beginning of it.

Then why was Saturn the supreme deity by whose name the great and glorious age *before* the Deluge was named? Because it removed Uranus from its role of chief deity, and to the onlookers on Earth, emasculated him? If the distances between the Earth and Saturn and Uranus were then what they are now, then such occurrences could scarcely be observable: Uranus is only faintly visible in the night sky over Mesopotamia in a most translucent night. Saturn is clearly visible but is not, for an unaided eye, a spectacle in the sky; it was more voluminous and more luminous before the Deluge, but if it moved on an orbit not too different from the present one, and the Earth were moving approximately in the same quarters where it

moves today, then the surprise still persists as to how a body on a 30-years-long orbit could make the inhabitants of the Earth on its one-year-long orbit, regard it the supreme of all celestial bodies in the sky.

The appellative “sun” employed for Saturn could be explained by its unusual brightness when it exploded as a nova for a short time, actually for seven days, before the beginning of the Deluge on Earth. Assuming the length of the day in those times to have been not too dissimilar from its present value, the velocity of the moving masses being on the order of 100 kilometers a second or 8,600,000 kilometers in a 24-hour period, and the Earth and Saturn being on the closest points on their reciprocal orbits, or in conjunction (which is another surmise), in seven days a distance of ca. 60 million kilometers would be covered. On present orbits the distance between Saturn and Earth varies from 1,279 million kilometers at superior conjunction to 1,578 million kilometers at opposition; the lesser of these distances is ca. 21 times greater than that above calculated. This means also that unless the velocity of the ejected water was an order of magnitude greater than 100 km per second, the distance between Saturn and Earth must have been substantially smaller than it is at present.

I have rather arbitrarily selected the figure of 100 kilometers a second for the motion of the exploded material; today the escape velocity, or the speed required for a projectile on the surface of Saturn to leave the gravitational attraction of the planet is but 35 kilometers a second. For Jupiter the escape velocity is 59 kilometers a second. Assuming that Saturn was of a mass equal to that of Jupiter, the same figure would apply to it too. With 100 kilometers a second we have almost double the velocity of escape. The arbitrariness of the assumption of such velocity for our calculations is obvious. But if the set of figures is not too far from what they actually were, the conclusion would be that the distance of the Earth from Saturn was but a twentieth part of what it is now; this would permit us to speculate whether the Earth could at some early period have been a satellite of Saturn. The distance 60 million km is commensurate with the distance of Mercury from the Sun, or 58 million km; Jupiter’s satellites revolve at distances up to 24 million km from the primary. Theoretically Saturn could have satellites as large as the Earth: the Moon is only one-fortieth of the Earth in volume, whereas Saturn is 760 times larger than our planet.<sup>(5)</sup>

If such was ever the case, the “Age of Saturn” and the very unusual conditions under which mankind lived in it, and Saturn’s worship prior to the Deluge, would gain in meaning. The appellative “sun” used for Saturn would be understood as resulting not only from the great light it emitted for a short period when a nova, but also from its long-standing role of a primary for the revolving Earth.

If there is truth in the surmise, and nothing more it is than a surmise, that the Earth was once a satellite of Saturn, the latter must have revolved closer to the sun in order that the Earth should receive heat from it—Saturn exudes little heat<sup>(6)</sup>—and if the age of Kronos was a golden age, then it is also proper to assume that the conditions on the satellite Earth were not unfavorable for life. The geological record documents extreme climates for the past of the Earth—times when corals grew in the Arctic, and times when the Earth, partly even on the equator, was fettered by ice. Such climates require definitely abnormal conditions that could be created only by varying positions of our planet as an astronomical body. Therefore surmises as made in this section are not in conflict with geological and paleo-climatological records—yet it is not what could have taken place, but what took place, or the historical record, that is the proper goal for inquest. In the absence of direct indications we may only deal with the problem of the Earth as a satellite of Saturn as with a hypothetical construction, requiring further elucidation.



It is assumed by modern astronomy that the ninth planet, Pluto, was once a satellite of Neptune, which, having collided with Triton, another satellite of the planet, was thrown out of the ring and became an independent planet; the satellite Triton, however, as a consequence of the collision, reversed the direction of its revolution and became a retrograde satellite.<sup>(7)</sup> Another instance of a postulated conversion of a planetary satellite into an independent planet is discussed by Van Flandern and Harrington in their paper “A Dynamical Investigation of the Conjecture that Mercury is an Escaped Satellite of Venus,” *Icarus* 28 (1976), pp. 435-440.]. Thus the principle of a conversion of a satellite into a planet in its own right is not a phenomenon that is discussed here for the first time.

The Golden Age of Saturn or Kronos came to its end with the supreme god of that period, the planet Saturn, was broken up. The Age of Kronos was not the earliest age of which man retained some, however dim, memories—but farther into the past the dimness amounts almost to darkness.<sup>(8)</sup>

## References

1. [On Kronos’ golden age see Plato, *The Statesman*. cf. P. Vidal-Naquet, “Plato’s Myth of the Statesman, the Ambiguities of the Golden Age and of History,” *Journal of Hellenic Studies* 98 (1978), pp. 132-141. Cf. Porphyry, *De Abstinentia* IV. 2; Teleclides, quoted in Athenaeus, *Deipnosophistae* VI. According to Macrobius, in the reign of Saturn there was no distinction between freedom and slavery (*Saturnalia* I. 7. 26) and all wealth was held in common (I. 84). Cf. Pompeius Trogus in Justin, bk. 43: “Saturn is said to have been so just that no one under him was a servant, nor did anyone have any private possessions, but all things were held in common and undivided, as if the inheritance of one belonged to all.” On Saturn’s reign in Italy, see Dionysius of Halicarnassus, *Antiquitates Romanorum* I. 36. 1; Vergil, *Fourth Eclogue* also, *The Aeneid* II. 252 Silius Italicus 3. 84; 13, 63; 17. 380. Martial, *Epigrams* 63. Macrobius, *Saturnalia* VII. 26.].
2. Hesiod, *Works and Days*, transl. by Evelyn-White, 110.
3. Ovid, *Metamorphoses* Book I, tr. by Innes.
4. Ginzberg, *Legends*, I.
5. [The proportion of the Earth’s mass to that of Saturn is 1:90.]
6. [Analysis of the data collected by Pioneer 11 has led to an estimate of a temperature of ca. 10,000 degrees Kelvin in the interior of Saturn. There appears to be some net outflow of heat at the top of the atmosphere.]
7. [R. A. Lyttleton, “On the Possible Results of an Encounter of Pluto with the Neptunian System,” *Monthly Notices of the Royal Astronomical Society* 97, p. 108. Cf. the criticism of Lyttleton’s suggestion of R. S. Harrington and T. C. van Flandern in “The Satellites of Neptune and the Origin of Pluto,” *Icarus* reprinted in *KRONOS* V. 2. (1979), p. 76. The alternative postulated by the authors involves a near-encounter between Neptune and a hypothetical planet of two to five Earth masses. The authors’ suggestion that Pluto’s newly-discovered moon may once also have been an independent satellite of Neptune could help solve the question of the origin of the Earth’s companion.]
8. [Similar traditions of a golden age existed among the Sumerians (S. N. Kramer, “Sumerian Myths and Epic Tales” in J. Pritchard ed.,

*Ancient Near Eastern Texts Relating to the Old Testament* [Princeton, 1950], pp. 37ff.), ancient Egyptians (F. Lenormant, *Les Origines de l'histoire* [Paris, 1880], vol. I, p. 58), Hindus (*The Laws of Manu*) and Chinese (*Les Memoires historiques de Se-ma Ts'ien*, transl. by E. Chavannes [Paris, 18xx], vol. I, pp. 17ff.) among others.].

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