**Saturn**

Of Saturn I intended, already for some two decades, to write in a volume “Saturn and the Flood,” in which, as the title discloses, I would endeavor to identify this planet as the prime cause of the greatest of all catastrophes in human memory—the universal flood, or Deluge. This part of Worlds in Collision was conceived and drafted together with the parts dealing with Venus and Mars, but the elaboration of details was postponed and other labors claimed my attention and I am still before work unfinished. I will, however, disclose in a few sentences what is the subject of that part of reconstruction of world history.

The age that man later called the Age of Cronos (Saturn) was remembered with nostalgia as the age of bliss. It was the the earliest age of which man retained some, however dim, memories, but farther into the past, the dimness amounts almost to darkness. Saturn was also a more massive body than it is now, possibly of the volume of Jupiter, [1](http://www.varchive.org/ce/sattot.htm%22%20%5Cl%20%221) whereas now the proportion is approximately 7 to 13.

At a date that I would be hard put to task to identify even with approximation, but possibly about than ten thousand years ago, Saturn was distrubed by Jupiter and exploded, actually became a nova. The solar system and reaches beyond it were illuminated by the exploded star, and in a matter of a week the earth was enveloped in waters of Saturnian origin.

Told in such brevity, the story sounds fantastic. I had the choice not to mention these events here at all or to refer to them and ask indulgence on the part of the readers for having said something unusual, and at the same time ask them to wait for a detailed narrative at some indeterminate time. I selected the latter. I have already mentioned that the major planets were in some way connected with the earlier cataclysms, one of which was the Deluge (*Worlds in Collision,* p. 373).

When in 1946 the manuscript of Worlds in Collision was first offered to the publishers (Macmillan and Co., New York), it contained the story of the Deluge and of the catastrophe that terminated the Old Kingdom in Egypt. But, at the suggestion of the reader for the publishing company, the book should ahve concentrated on one event; we compromised and presented in the published volume two series of catastrophes—those that took place in the fifteenth century before the present era and were caused by near approaches of Venus, and those which occurred in the eighth century before this era, and were caused by close approaches of Mars. The unused material was left for ealboration in two volumes: “Saturn and the Flood” and “Jupiter of the Thunderbolt.”

With this hardly even a summary, as told on this page, I should possibly dispel any misconception as to what is the design of my manuscript, too slow in the making. As to “predictions,” I could make several and I offer them cognizant of the fact that a prediction in science needs to be elaborated on the reasons that led to it.

I assumed, in the first place, that the planet Saturn must contain water to the extent that it is a “water planet.” It is also possible that water that eveloped the earth follwoing the explosion of Saturn was at least partly formed by hydrogen combining with the oxygen of the terrestrial atmosphere—and there are indications that I intend to discuss in my book on the Deluge which point toward a sudden drop in oxygen content in the terrestrial atmosphere. But the fact that comets were observed consisting of water (ice), according to their spectral picture, permits the conclusion that water “ready-made” cae from the planetary “nova.” Actually, in years subsequent to my concept of *Worlds in Collision*, water was identified as present on Saturn.

Further, I assumed that sodium chloride, or common salt, is an ingredient of the Saturnian atmosphere. Geophysicists have long wondered as to the origin of salt in the ocean. Sodium could have been derived from terrestrial rocks; but they are poor in chlorine. To some extent chlorine in oceans could have come from volcanic eruptions but it would require eruptions on an almost unimaginable scale to produce all of the chlorine locked in the salt of the oceans. The ancient traditions of Deluge refer also to the water arriving from space as salty and warm.

I have thought also of free chlorine (not combined into salt) on Saturn; but it is possible that vegetable life, at least, is present on Saturn, and free chlorine would interfere with vegetation; the reasons, though not compelling, for this assumption of vegetation on Saturn are also reserved for the detailed discussion. The tradition found in ancient texts refers to innumerable new forms of life in animal and plant kingdom following the Flood, which could have been solely a result of multiple mutations. But there exists in ancient lore an ever recurring association of seeds and new plant forms, with Saturn, Osiris, Tammus, Cronos, all of whom I undestand as personfiications of the planet Saturn.

In recent years I have chanced to read the view of Josif Shklovsky, a Russian astrophysicists, that a nova would be a source of cosmic rays even thousands of years after the explosion. Shklovsky and his collaborators offered the suggestion that at some past time the earth, or the entire solar system, passed through clouds of cosmic rays, resulting from a nova star, that caused the extinction of various forms of life on earth, dinosaurs and others. This thought found an echo in me because the same thoughts had been put on paper by me two decades earlier. But their assumption that cosmic rays may be discharged by a nova thousands of years after the explosion led me to think that if such is the case, Saturm may still emit cosmic rays, if, by now, only of low energy. Therefore when asked at some college gatherings what new “prediction” I would make, and desirous to tell something that in case of detection could not be ascribed to a lucky guess, I volunteered to suggest that there is a good chance that Saturn emits low energy cosmic rays. This on the assumption that the Russians were right in saying that a nova would still be sending out such radiation after so long a period.

Finally, Saturn must emit more heat than it receives from the Sun. Reasons for such conditions of Saturn are at least two: first, the residual heat of the catastrophe in which Saturn was derailed from its orbit; second, the radioactivity that resulted from the catastrophe must still be pronounced on Saturn. In addition, Saturn can be regarded as a star and may have some mechanisms that make our sun burn with intense light. Becuase the surface clouds of Saturn are cold and the distance of Saturn from the sun renders the heat from this source very limited, the conclusion was drawn that Saturn must be very cold, frozen to its core. We came to a different conclusion also concerning the temperature of Saturn below the surface cloud layer.

In 1966 Dr. K. I. Kellermann described in Icarus the surprising fact that Saturn, at the wavelength of 21.3 cm. shows a temperature of 90 degrees F., which cannot be explained by solar radiation. It will be found of still higher temperature.

The rings of Saturn are formations of less than ten or twelve thousand years old. They must consist largely of water in the form of ice, but since the ancient lore all around the world tells that it was Jupiter who put these rings around Saturn, they may have some other components, too. Since these lines were written, spectroscopic study of the Saturnian rings has revealed that they consist mainly of water in the form of ice (1966).

Sodium chloride and cosmic rays are two phenomena still waiting to be investigated. Therefore, when I presented to Dr. H. H. Hess in his capacity as chairman of the Space Board of the National Academy of Science, a memorandum (dated September 11, 1963), subsequently submitted also to Dr. Homer Newell in his capacity as Director of NASA, I included these lines concerning Saturn:

“Saturn. Tests should be devised for detection of low-energy cosmic rays emanating from Saturn, especially during the weeks before and after a conjunction of Earth-Jupiter-Saturn.”

“Chlorine should be looked for in the Saturnian spectrum of absorption.”

**References**

1. Interestingly, for certain reasons G. Kuiper assumed in recent years that Saturn originally was of a mass equal to that of Jupiter. *Sky &Telescope,* March 1959, p. 259.