

NEW APPROACH TO THE ORIGIN OF THE TEKTITE IN CHINA. Qin-Wen Zhang 1, Dao-Yi Xu 2 and Zheng Yan 2. 1 Institute of Geology, Chinese Academy of Geological Sciences, Beijing, China; 2 Institute of Geology, State Seismological Bureau, Beijing, China

The tektites in China are distributed on the north part of Australia - Southeastern Asia strewnfield of tektite: Leizhou Peninsula of Guangdong Province and Hainan Island, and locate exactly at the boundary between Zanjia Formation (Q_1) and Beihai Formation (Q_2). At the Wenchang High School section located at the eastern Hainan Island, the original tektites are discovered right at the surface of the top layer of Zanjia Formation, which is characterized by a hard Fe-Si concentration layer of less than 5 cm thickness with particular dark violet or violet-red colour. It is suggested that the very thin violet layer was formed in special dry-warm climate before the impact of the tektite.

The tektite grains with irregular arrangement at the surface of hard concretion layer occurred at the Wenchang Middle School section indicate that many tektite grains were crushed during impact. Therefore, they can not be found in large individuals. The tektite grains usually show ablated planes occurred in the anterior part or swelled terminal part of tektites, which sharply cuts the flow structure.

All of these indicate that the tektites had experienced melting and later as solid grains moved around earth. They were ablated when they were going through the thin air above earth.

In addition, in the related maps of Fe^{+++} - Fe^{++} and Ti-Si etc. the tektite is located near the meteorites in same degree, especially the glass grains from moon.

Owing to strong difference of chemical components of tektites with moon's basic volcanic rocks, and high viscosity of melting material of tektites and strong earth gravity both famous hypotheses of moon's volcanism and injection of melting rocks in the process of impacting on the earth surface can't be adopted.

Based on the above-mentioned evidences, a new hypothesis may be suggested: During the end of Lower Pleistocene, a comet of special components from the outer part of the Solar System approached to the Earth, and then it was captured by the Earth, when it came approximately to the "Roche's limit". It was crushed into countless fragments, detritus and dusts, which rotated around the Earth, probably far above the Earth's atmosphere, as a "cloud ring". Under the action of crushing energy they could be in the situation of liquid-melt drop in the almost vacuum circumstances and the flow and bubble structure were formed.

During their rotation the climate became anomalous and the violet Fe-Si concentration were formed on the surface of sediments. After rather short time of rotation the unstable ring was broken and the fragments impacted on the hard ground instantaneously.