



## **Chinese tombs oriented by a compass: evidence from paleomagnetic declination changes versus tombs age**

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The use of the magnetic compass in China is documented at least since the Han dynasty (206 BC-220 AD), but may be older. Geomancy (fengshui) practised for a long time had a profound influence on the face of China's landscape and city plans. The tombs (pyramids) near Xian (together with suburban fields and roads) have strange space orientations, sometimes in the basic south-north direction (with respect to the geographic pole), but usually with deviations of several degrees to east or west. The use of the compass means that the needle is directed to the actual magnetic pole at the time of construction or last reconstruction of the given tomb. The magnetic pole however, relative to the 'fixed' geographic pole, wanders significantly in time. We successfully correlated (found a close trends), by using paleomagnetic data (for the central China and the time interval of interest), the starting date of pyramids building with respect to the magnetic pole position at that time.

As in Mesoamerica, where according to Fuson hypothesis, the Olmecs and Maya oriented their ceremonial buildings and pyramids by compass even before the Chinese, here in central China the same technique may have been used. The agreement of building alignments with likely magnetic pole positions at the time is fairly good. There are several written records that the knowledge of the various ancient types of compass in China is older than from the Han period but paleomagnetic declinations for China are generally so far not too precise.