POTENTIAL CAUSE OF THE 1992 CAIRO EARTHQUAKE

by

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The cause of the Cairo earthquake of 12 October 1992 and its aftershocks appears to have been deep-seated, down to 25 km below the surface. Therefore, the fracture along which the initial movement occurred must be a major one that custs across a huge thickness of sediments and basement rocks.

The site of the quake is believed to be near Dahshur, a few kilometers south of the Pyramids of Giza. Cracks were noticed west of this location, near Gabal Katrani, and major shocks were felt in Faiyum, Ayat, Helwan, etc. All these localities occur along a line that was previously mapped as the southern boundry of an ancestral delta of the Nile River of probable Mesozoic age. This relationship cannot be irrelevant, because the boundry of an ancestral delta would represent a weakened zone along which movements can easily occur. Furthermore, the extension of the same line along the Cairo-Suez road and into the Sinai follows the direction of aftershocks detected by observatories in Jordan.

It is here proposed to study the southern boundry of the ancestral delta of the Nile as a potential earthquake hazard. This is particularly true since the 1847 earthquake that affected Cairo and the rest of Egypt in similar ways as the 1992 shock appears to have originated at the same location.