

# FFOTO

## **GOLDEN STARDUST**

The Element 'Gold, (Au) can only be made in the nuclear reactor of stars.

It came to our planet when the Earth was first forming, as dust from catastrophic astronomical events –stars imploding and ejecting energy, as light and matter. The events that produce most of the gold in the universe are called 'Gamma Ray Bursts'. This occurs when a double star consisting of two neutron stars collapses under the force of gravity. Neutron stars are the cores of dead stars. They are only a few miles in diameter; so dense that every last bit of matter has been compressed down to the density of the atomic nucleus. The two dead, dark stars spin around each other for millions of years at millions of miles per hour, constantly pulling each other closer. Then finally they touch. At that moment more energy is released than the rest of the universe combined. Much of their mass collapses into a black hole and leaves our universe forever, but the rest is released in an enormous explosion of gamma rays and newly- formed elements. Some of that star- dust flung into space, is gold. The gold in the Earth's crust was carried here on asteroids that hit the earth, during the 'Late Heavy Bombardment' 3.8 billion years ago when the Earth gained most of its mass.

The Ancient Egyptians believed that gold was the flesh of their Sun god 'Ra'.