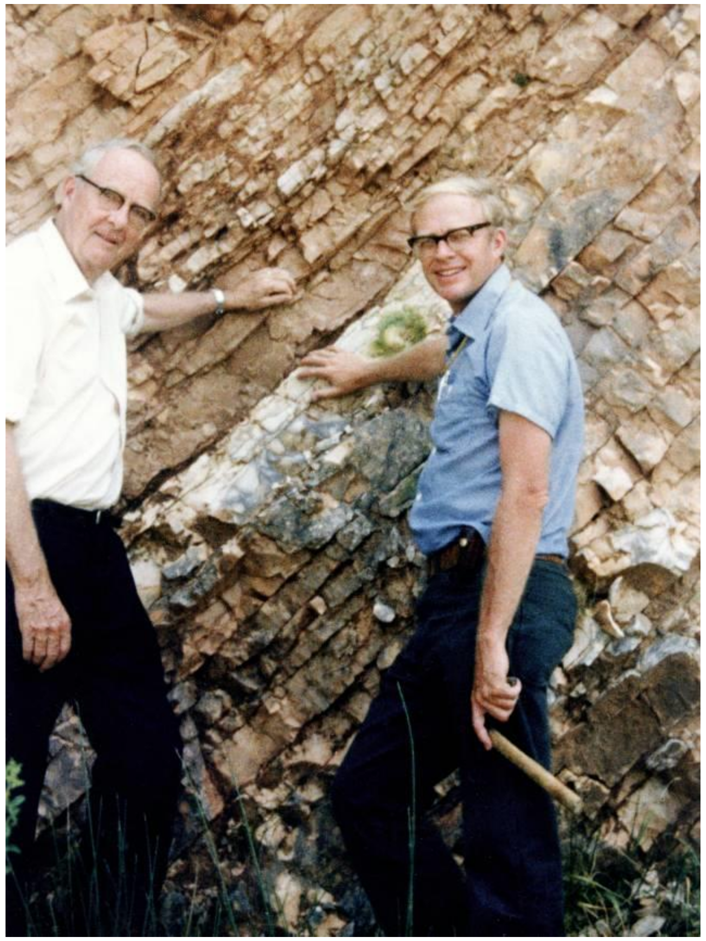
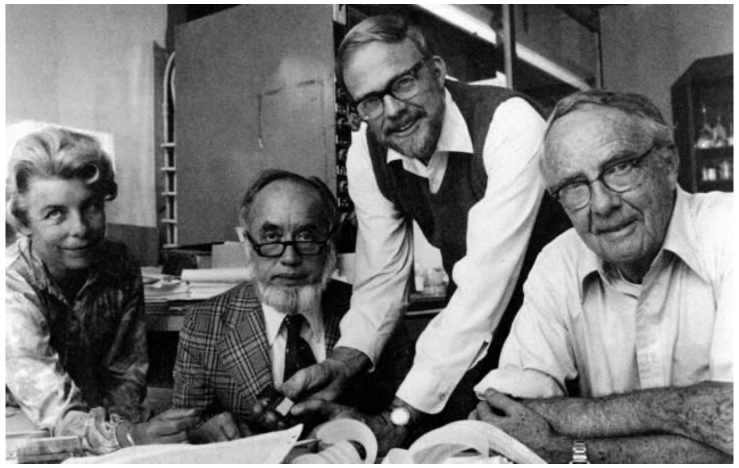
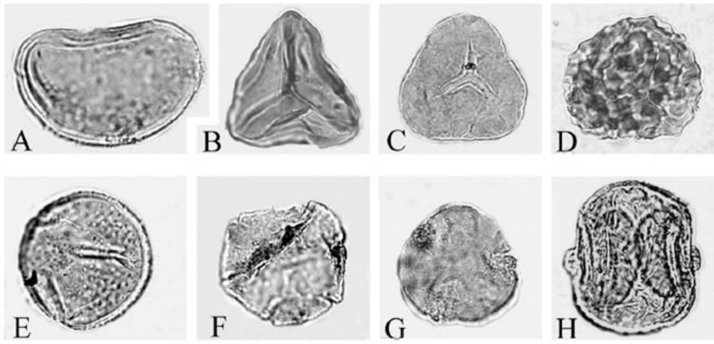
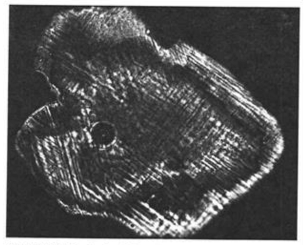






Foraminifera : Walter Alvarez was puzzled by the rapid, dramatic change in foram size between the end of the Cretaceous (pictured at the bottom here) and the beginning of the Tertiary (top) periods, which is seen worldwide. These specimens are from a different location (not Gubbio).

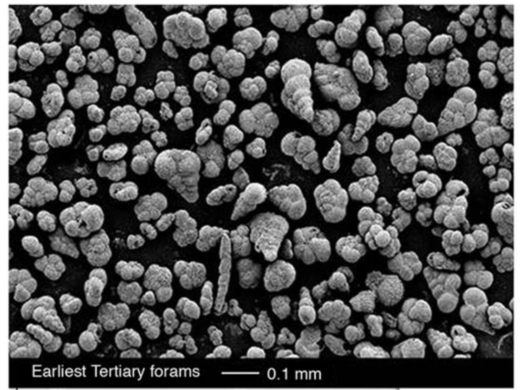


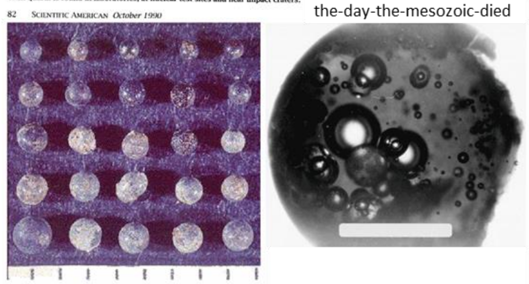
QUARTZ GRAIN shows laminar deformations generated by hypervelocity shock. Such quartz is found in laboratories, at nuclear test sites and near impact craters.

82 SCIENTIFIC AMERICAN October 1990

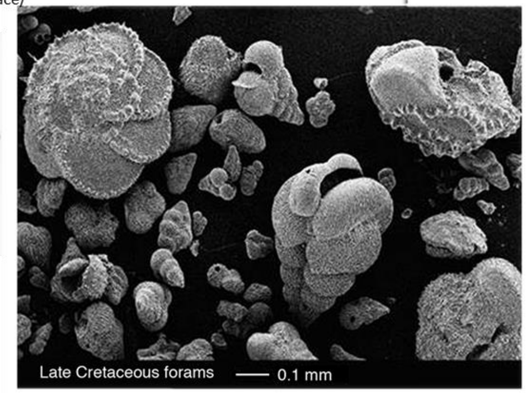
Impact?

http://nautil.us/issue/32/space/the-day-the-mesozoic-died

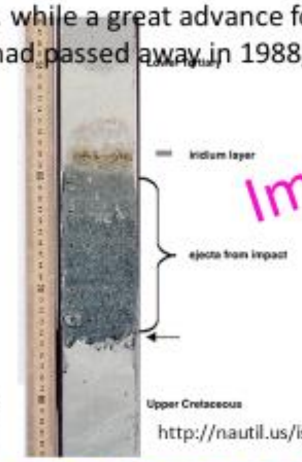




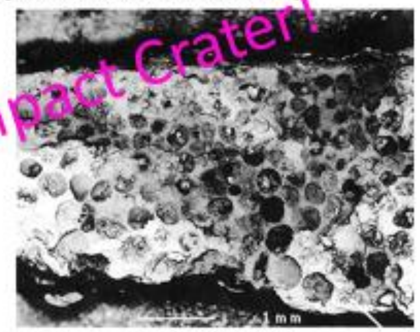
Tektites: Tektites from Dogie Creek, Wyoming (left) and Beloc, Haiti (right). Note the bubbles within the glassy sphere—these formed in the vacuum of space as the particles were ejected out of the atmosphere.



The identification of the huge crater, while a great advance for the asteroid theory, was bittersweet for Walter. Luis Alvarez had passed away in 1988, just before its discovery.



Impact Crater!



http://nautil.us/issue/32/space/the-day-the-mesozoic-died

B. Analysis Structure

An outline of these impact effects is provided below with a detailed discussion following.

- Shock Wave
  - Air: Blast Wave
  - Ground: Ground Shock
  - Water: Water Compression Wave – Tsunami
- Thermal Radiation
  - Flash
  - Fireball
- Debris & Aerosols
- Electromagnetic Effects
  - Electromagnetic Pulse (EMP)
  - Ionizing Radiation
  - Electrophonic Bursters
- Secondary Effects
  - Mass Fires
  - Earthquakes/ Landslides/Volcanoes/Lava Flows
  - Dust & Impact Winter
  - Upper Atmospheric Effects
  - Oxygen Depletion
  - Gas Evolution & Acid Rain
  - Magnetic Pole Reversals
  - Energetic Weather Conditions
  - Starvation and Plagues

http://www.breadandbutterscience.com/Comet_and_Asteroid_Threat_Impact_Analysis.pdf

「地球と災害」
第 14 回資料

Impact winter scenario

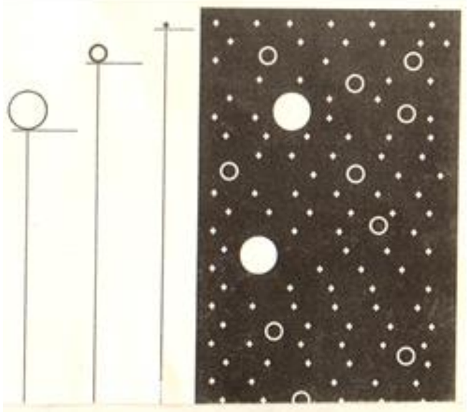


FIGURE 19 The Signor-Lipps effect. [After Michael Williams.[16]]

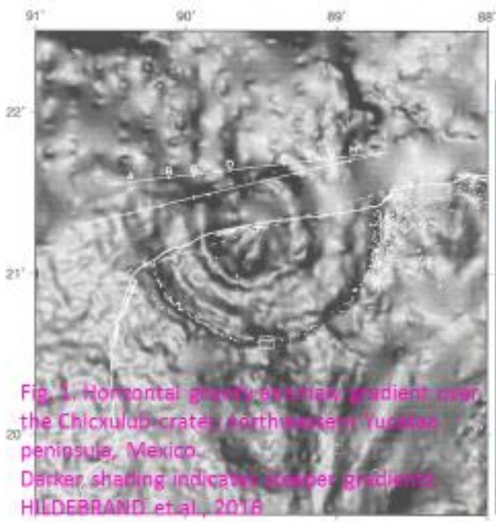
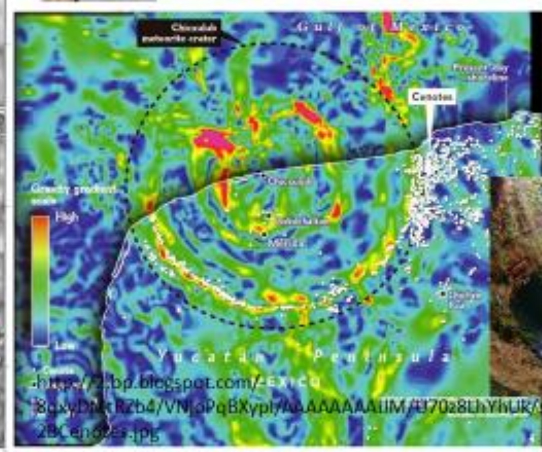


Fig. 1. Horizontal gravity gradient over the Chicxulub crater, northwestern Yucatán peninsula, Mexico. Darker shading indicates steeper gradients. HILDEBRAND et al., 2016



https://i.pinimg.com/originals/51/67/c5/5167c5e1702709fb66c336e5d41bdf40.jpg