

blotted out and whole species of animals fell extinct worldwide. Stretching a provocative idea even further, other scientists claimed to discern a regular pattern in the fossil record : mass extinctions every 26 million years.

The notion of regular extinctions got astronomers excited because the *deus ex machina* required to make giant meteorites crash into earth like clockwork every 26 million years clearly lay in their province. Some posit that an unseen companion of the sun, christened Nemesis, shakes loose comets each time its orbit passes near a comet cloud. Others contend that the Sun, as it bobs up and down through the plane of the galaxy is buffeted by comets or dust clouds.

These are rich hypotheses. Why, then, without any further evidence, do they seem so unsatisfying? Perhaps because complex events seldom have simple explanations. Invoking regular squads of meteorites to dispose of the dinosaurs and other vanished species is only to exchange one mystery for another.

On closer scrutiny, the alleged repeating pattern of mass extinctions has faded. The dinosaurs and other vanished species did not all turn feet up in a day; some were in decline before the end of the Cretaceous. The thin layer of iridium that has been found in many geological strata dating from 65 million years ago could indeed have come from a meteorite, as the Alvarezes suggest, but eruptions of volcanoes are now known to be sources of iridium too.

Terrestrial events, like volcanic activity or changes in climate or sea level, are the most immediate possible causes of mass extinctions. Astronomers should leave to astrologers the task of seeking the cause of earthly events in the stars.

GOLD AND SILVER IN NEWS AGAIN

The Journal 'Asia Technology', December, 1990 issue, reports the results of an international expedition exploring the coral sea east of Papua, New Guinea. The team of Soviet, Canadian and Australian explorers have identified an under water active volcano at a depth of 2,200 m. What is of interest, samples of the 'black smokers' or the 'Chimneys' coming out of this volcano, have analysed as much as 21 gm of gold and 500 gm silver per tonne. The news of this discovery coming soon after our report of appreciable gold and silver values in a section of the copper mines at Ingaldhal, Chitradurga (Jour. Geol. Soc. India, v. 36, p. 564) emphasizes the need for getting a better understanding of metal deposits generated at mid ocean ridges. Our endeavour should be to identify the sites of ancient volcanism similar to the mid-ocean ridges of the present day. The identification of pillow lavas and evidences of explosive volcanic activity that we commonly come across in greenstone belts should be of help in identifying such terrains. They are likely to carry relatively high gold and silver values and, therefore, should be targets for intensive exploration. —B.P.R.