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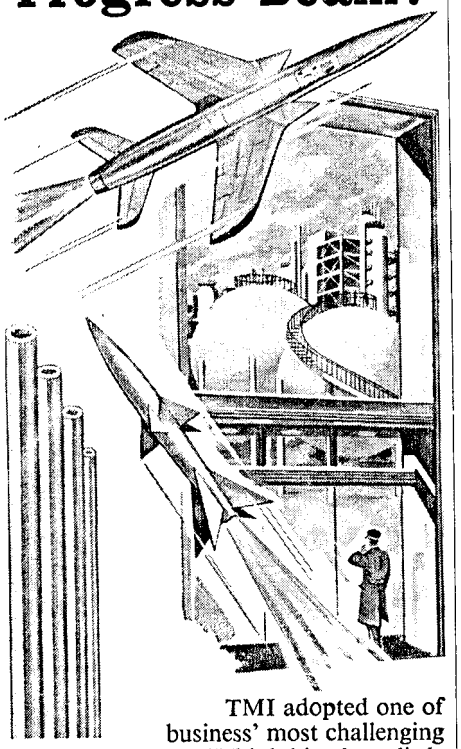
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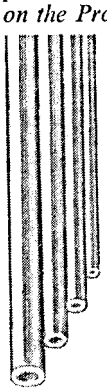
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pins, completely oxidized but apparently made of copper. Two of them, each half an inch long and a sixteenth of an inch in diameter, were pointed at one end; the third was pointed at both ends and bent at more than a right angle. Making such shapes as these from native copper would require cold-hammering, a technique only a few steps removed from full metallurgy. The discoverers are now awaiting laboratory analyses to determine if the three pins are indeed copper. If such is the case, Miss Çambel and Braidwood point out, it will prove that 9,000 years ago the people of Cayonu were "using metal as metal rather than as another object such as stone and wood."

Dangerous Dust?

Dust consisting of fine fibers of asbestos, which are insoluble and virtually indestructible, may become a public health problem in the near future. At a recent international conference on the biological effects of asbestos sponsored by the New York Academy of Sciences, participants pointed out on the one hand that workers exposed to asbestos dust are prone in later life to develop lung cancer, and on the other hand that the use of this family of fibrous silicate compounds has expanded enormously during the past few decades. A laboratory curiosity 100 years ago, asbestos today is a major component of such building materials as shingles and roofing papers, floor tiles, insulation, wallboard and piping and is an important ingredient in such products as gaskets, brake linings and calking compounds. World production of asbestos in 1962 exceeded three million tons, and industries in the U.S. consumed 25 percent of the total.

One result of this increasing use is that asbestos dust is frequently encountered in ordinary daily life. J. G. Thomson of the University of Cape Town Medical School in South Africa reported to the conference on 500 consecutive autopsies performed in Cape Town and 500 in Miami, Fla., on individuals over the age of 15. Smears were taken from the bottom of the lungs; in both South Africa and the U.S. characteristic "asbestos bodies" were found in 20 percent of the females and 30 percent of the males. Some of the males showed asbestos bodies in such abundance that occupational exposure to asbestos dust appeared probable; in 80 percent of all positive cases, however, the incidence was low enough to suggest that the asbestos bodies were present as a result of general atmospheric contamination.

It is not clear what the tumor-producing factor in asbestos is. Of the three asbestos silicates in general industrial use, two contain traces of iron and the third has relatively high concentrations of nickel and chromium. All three metals are known to be carcinogenically active. Two of the asbestos minerals contain appreciable amounts of natural hydrocarbons, some of which are also carcinogenic.

The Opossum as a Player

An opossum playing possum is genuinely feigning death, three researchers at the Children's Hospital of Los Angeles have decided on the basis of electroencephalograph records. The "opossum state" is well established in American folklore. Under attack the little marsupial suddenly slumps into a motionless ball with its head down, its mouth open and its eyes fixed in a glassy stare. Such behavior obviously functions as a defense mechanism: seeming to be dead, the animal is left for dead, and it revives when the coast is clear. There has been some doubt, however, whether the opossum is actually feigning death or is in an involuntary cataleptic state induced by physiological changes caused by the attack.

Allen C. Norton, Anthony V. Beran and George A. Misrahy report in *Nature* that they implanted electrodes on the skulls of 15 opossums (*Didelphis virginiana*). They induced the opossum state in these animals by shaking them with an "artificial dog jaw," a device resembling a large pair of pliers, and at the same time playing recorded barking sounds through a loudspeaker. When first attacked, an opossum would hiss and growl and try to fight back at the jaw, but then suddenly all activity would cease and the animal seemed to be dead for as long as two or three minutes. Electroencephalograph records taken before, during and after the artificially induced opossum state showed no change except perhaps a heightened arousal level caused by the attack and persisting after revival. To simulate the natural situation more closely the experimenters allowed real dogs to shake "naïve" animals into an opossum state that lasted five or six minutes. Again there was no difference in the brain waves during the state and after recovery. Finding no evidence of unusual brain activity, the investigators concluded that "the folklore is correct; the animal is merely 'playing possum.'"