

TF-240, Kalibangan I,  $3610 \pm 110$   
( $3715 \pm 115$ )

Charcoal from Trench KLB-1, Locus XD 1, Qdt. 1, Pit 3 sealed by Layer 3, Depth 2.50 m., Field No. KLB-1, XD 1/C/1963-64-1. NaOH pretreatment was also given. Comment: date is younger than expected archæologically.

1. Agrawal, D. P., and Kusumgar, Sheela, *Radiocarbon*, 1966, 8, 442.
2. —, and Lal, D., *Curr. Sci.*, 1965, 34 (13), 304.
3. Ghosh A., *Indian Archaeology—A Review*, 1960-63.

### MOULDS AND MEN

“MOULDS and men are going to proceed till the end of time very much in each other's company.” Moulds, the tiny and often microscopic fungi which will grow on almost anything, are, ironically, best known to the public through their ability to produce chemical weapons, such as antibiotics, so valuable in the fight against disease. These drugs have given moulds the reputation of being the friends of man, but in fact they are just about the toughest and most adaptable parasites that human beings have to cope with.

Moulds are more truly parasitic than most of the plants called parasites, because they contain no chlorophyll. They are unable to trap the Sun's energy and use it to convert water and carbon dioxide into more complex compounds. Instead, they obtain the ready-made chemical building-blocks from somewhere else, by using a method of feeding known as saprophytic. This is done with a network of tiny white threads called a *mycelium*. These threads can be found on jam, bread or old golf shoes. The threads, properly called *hyphæ*, absorb food continually all over their surfaces, but unfortunately such familiar foods are only a tiny fraction of the substances which fungi have learnt to dissolve and absorb in their continual hunt for food. The latest problem brought about by ravaging fungi is the damage they cause to electronic equipment.

Modern circuits are often miniaturised to the point where the components are so closely

packed that they cannot be cleaned. The connections between them are usually made from wires covered with polyvinyl chloride plastic, or with cotton, both of which are food to fungi. Not only do moulds destroy insulation and cause short-circuiting in this way, they also form their network of mycelium inside black boxes full of electronic equipment and these threads conduct electricity enough to spoil the working of delicate equipment.

Moulds have also been making a special nuisance of themselves in optical instruments. They feed on the leather cases of such instruments and spread to the lubricating greases and sealing compounds used to keep other forms of life out. They also eat the surface lacquer finishes of the glass. They corrode metal parts and even etch away the glass itself. Fungi in the tropics are now seriously delaying the progress of medical research by their attacks on all kinds of instruments, including microscopes.

What is the answer to this growing problem of the ubiquitous mould? One suggestion which has been tried is to use high doses of radiation for fungal control. But the moulds which are now learning to attack most of the new plastics as easily as dry rot attacks wood pose a problem, because radiation powerful enough to kill them is also liable to alter the chemical properties of the plastics.—(Courtesy: British Information Service, British High Commission in India.)