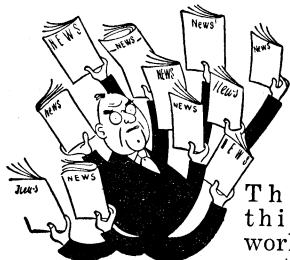


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today they bear a genus of fleas, *Paleopsylla*, that has been found in amber in which the insects were trapped during the Oligocene period of prehistory.

Fleas are wingless insects—though their tremendous power of leaping helps make up for that lack. They can be readily told from their fellow contributors to human suffering, the lice, because they are flattened from side to side or laterally. The lice are flattened top to bottom, or dorso-ventrally.

If kept warm enough, fleas lay eggs all year round. The eggs fall into the litter of the host animal's nest or bedding, and hatch into tiny worm-like larvae in from one to four days. The larvae are non-parasitic, living off organic matter in the trash. According to the temperature, the larvae spin a cocoon in seven to 30 days after hatching, and emerge from the cocoon as adults 13 to 44 days later. From egg to adult takes about 28 days as a fair average.

Science News Letter, April 14, 1956

### CHEMISTRY

## New Vistas Opened in Chemistry Research

➤ A METHOD for studying free unstable atoms, opening up an entire new field of investigation in chemistry, was advanced by Dr. Herbert P. Broida, National Bureau of Standards research physicist.

Free radicals, atoms with very short life spans, have until now been too elusive for leisurely scrutiny by scientists. If, as Dr. Broida believes, free atoms can be trapped at extremely low temperatures, new knowledge of the nature of the atoms will enable scientists to lay the groundwork for fresh advances into technological fields.

Speaking at a meeting of the Philosophical Society of Washington, Dr. Broida outlined evidence for his theory.

A free radical is an atom with an unpaired electron. Many react quickly in chemical combinations and are therefore very unstable. Evidence indicates these atoms can be trapped in solids at temperatures 200 degrees below zero centigrade.

Some scientists have speculated that the new line of research will make possible development of a lighter, more powerful rocket fuel.

Science News Letter, April 14, 1956

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Saturday, April 21, 1956, 2:05-2:15 p.m. EST  
"Adventures in Science" with Watson Davis, director of Science Service, over the CBS Radio Network. Check your CBS station.

Dr. Charles Marsel, associate professor of chemical engineering, New York University College of Engineering, New York, N. Y., will discuss "Rockets, Missiles, and Satellites."

## Questions

ARCHAEOLOGY—Where has a lost Greek city been unearthed? p. 231.

MEDICINE—How can the sex of an unborn baby be predicted? p. 226.

What proportion of stomach ulcers harbors cancer? p. 226.

PHYSICS—How powerful will the synchro-clash be? p. 227.

PLANT PHYSIOLOGY—How does a plant tell time? p. 226.

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