

## CHEMISTRY

# More Chemists Die Young

Chemists, although the most short-lived among scientists, are now more careful in handling poisonous chemicals and thus have extended their life span—By Walter Wingo

▶ **ALTHOUGH THE AVERAGE** life span of chemists still lags far behind that of other scientists, they can take some consolation in knowing they no longer are poisoning themselves as recklessly as did early chemists.

A report by the Health, Education and Welfare Department showed that the ratio of deaths of chemists between the ages of 25 and 59 is 47% higher than that for biologists and physicists and 76% higher than that for social scientists.

The picture must have been even gloomier in the late 18th and early 19th centuries, Dr. Samuel Soloveichik of the chemistry department at Yeshiva University, New York, told the American Chemical Society meeting in New York.

He said his studies of the lives of four famous chemists of that period indicate they hastened their own deaths with careless laboratory techniques.

Karl Wilhelm Scheele, the Swedish pharmacist who discovered oxygen independently of Joseph Priestley, had the bad habit of smelling and tasting his chemicals, Dr. Soloveichik reported. Unfortunately, Scheele worked with such things as hydrogen fluoride, hydrocyanic acid, arsine and mercury.

Scheele, who had been of robust health, became an invalid at 35 and, at a time when his fame was at its peak, sank into a deep depression. He died at 43.

"A vivid description of the psychic changes produced by mercury poisoning with its spells of melancholy is found in the character of the Mad Hatter in Alice in Wonderland," Dr. Soloveichik said. "Scheele's ailments and moods fit the description."

The motto of Sir Humphrey Davy, discoverer of sodium and potassium, was "live dangerously," Dr. Soloveichik said, and that is exactly what Davy did.

Davy was the victim of several explosions in his laboratory. Once, while mixing chlorine and nitrogen, a blast injured his hand and nearly blinded him.

Dr. Soloveichik believes it was Davy's sniffing of chemicals, however, that left the greatest imprint on his heart, liver and kidneys, forcing him to retire from the Royal Institution at 34, a pitiful invalid.

William Cruickshank, the English chemist and military surgeon who helped destroy the old phlogiston theory of burning, suddenly became ill while working in his badly ventilated laboratory on carbon monoxide, chlorine and phosgene, a poison gas used in World War I.

Cruickshank never recovered, dying a few years later, still young, but insane.

The leading American chemist of the period was James Woodhouse. His writings reveal that he had carried out long-term experiments with nitrous oxide.

He gave two quarts of it to a 14-year-old boy and calmly observed: "In a minute he was most violently affected. He walked up and down the laboratory with a quick step, elevating his legs."

Another time, Woodhouse gave a larger amount to a man who became "much enraged." Woodhouse wrote: "He caught me by the collar, pulled me by the cravat, tore my coat, ran about the room and struck at every person near him."

Woodhouse continued giving bigger doses of the chemical to people and noting even more violent reactions, until suddenly, at age 38, he dropped dead. One can only guess at what happened to him.

Dr. Soloveichik concluded his talk by urging chemists, young and old, to practice safety first.

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## PUBLIC HEALTH

## Pesticides Not Dangerous If Handled Carefully

▶ **BIRDS, FISH** and the nation's children are in no danger from deadly pesticides—if man handles the chemicals carefully.

Pesticides are chemical compounds used in today's battle against pests of all sorts—insects, rodents and weeds. Many chemicals have not only killed the pests but caused widespread harm among the world's beneficial creatures—birds, wildlife and even man.

Rules for using pesticides are simple, and anyone can follow them.

A first rule of safety, reports the U.S. Department of Agriculture in Washington, D. C., is to follow directions on the label. Do this each time the pesticide is used. Do not depend on memory. Pesticides should be stored in closed, well labeled containers—out of reach of children and pets and away from food supplies and sinks.

These and other sensible rules have recently been urged in a comprehensive leaflet, "Safe Use of Pesticides," published by the USDA. In the confusing mass of literature for and against pesticide use, this folder offers excellent advice for every man and woman.

Labels should first be read to be sure they list the name of the pest. Then the chemical should be applied in the manner prescribed.

If the day is windy, pesticides should not be sprayed in the garden. They should not be allowed to drift over flowers, shrubs and other valuable plants, or over drinking water sources.

Special care also should be taken to avoid contaminating fish ponds, aquariums or fish bowls—or areas where the rain runoff could carry dangerous chemicals to water supplies.

If a pesticide is spilled on skin or clothing, immediately wash with soap and water and change the clothing. If you get some in your eye, flush it for 15 minutes with plenty of water and get medical attention.

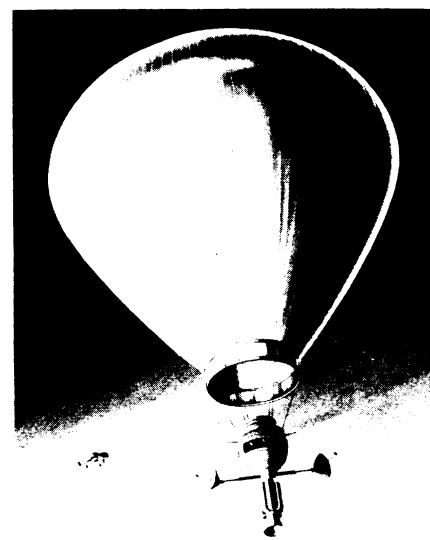
If a pesticide is swallowed, call the doctor at once, read the label to him and observe any antidote instructions on the label.

After the containers are empty, carefully discard them—never save or reuse them.

In a nationwide effort to remove dangerous chemicals from public consumption, to insist on clear informative labels and to instruct people against careless handling, various organizations are now attempting to halt the pesticide menace from upsetting man and nature.

Best precaution to help this campaign is for each individual to know how to handle the deadly poison.

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Honeywell

**BAG OF HOT AIR**—The gigantic balloon "hovers" on hot air generated from a self-contained gas burner, as an artist conceives it.

## SPACE

## Hot Air Balloon Aids NASA Space Program

▶ **A BIG BAG** of hot air is going to aid the National Aeronautics and Space Administration in the U. S. space program.

Called a Paravulcoon, it is actually a modern-day hot air balloon, and will be used in recovery systems for reentering space vehicles.

To be produced by Honeywell, Minneapolis, for NASA, it will include a regenerating hot air system powered by gas burners and an automatic control system.

Identical in principle to the first hot air balloons launched 180 years ago, it will be capable of suspending in midair items weighing up to 250,000 pounds for long lengths of time.

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