

hydrologically, geologically, thermally, or radioactively. As for transportation, they invoked the Commission's 20-year history of hauling wastes around with no serious accidents.

On the subject of retrieval, they said they could conceive of no circumstance that might necessitate removing the wastes, but if one arose, there would be plenty of time to design and build the remote-control mining machinery needed for such an operation.

According to the plan, canisters of the hot, solidified, high-level wastes, which range from the size of firewood logs to 18 feet long and 2 feet in diameter, will be brought to the mine in railroad cars and lowered down shafts into large rooms that have been carved in the salt. There, drivers operating heavily shielded, motorized vehicles will use remote-control hoists to insert the canisters into holes drilled about 22 feet apart in the floor of the mine. When each vault has its complement of containers, it will be filled in with salt. The pressure of the salt and the heat of the cylinders—ranging from 600° to 900°F—will cause the natural plastic action of the salt, which has the consistency of very hard wax, to move in and seal around the containers. Within a period of 6 months to 10 years, the steel-covered ceramic canisters will disintegrate, leaving the salt to hold the wastes in place.

Shaw emphasized the flexibility that has been built into the plans: If heat or radioactivity projections prove inaccurate, the energy can be diluted by reducing the amount of material in each container or by placing the canisters farther apart.

Skubitz and his friends in Kansas are still not buying. Several members of the Kansas state legislature, backed by Governor Robert Docking, have introduced bills asking for postponement of AEC's land purchase plans until further studies have been made. The AEC is well aware that it will have to make greater efforts in public relations if it wants its plans realized on schedule. As Senator Joseph Pastore (D-R.I.) warned at the hearing, "you are not going to stuff this down the Kansas governor's throat."

Oak Ridge, in response to Hambleton's complaint that it was not furnishing information promptly to the state geological survey, has offered to let a state representative sit in at Oak Ridge as planning continues. Further efforts at communication will probably be needed to overcome the appearance of

an attitude that Skubitz characterizes as "leave it to us . . . we're great scientists." Ironically, the 5000 citizens of Lyons—who have been reassured at public meetings with AEC officials, and who may gain 200 permanent jobs manning the dump—appear not to be perturbed at all by the prospect of being the country's nuclear waste capital.

The Lyons Nuclear Park, as it is called, is designed to hold all the non-defense atomic refuse this country will have accumulated by the end of the century—a total of 770,000 cubic feet, or 38,000 tons. So it will not be long before the AEC will be scouting around for a new repository, probably somewhere in the extensive salt beds underlying New York, Michigan, and states along the Gulf coast. But even if the AEC can prove the safety of its plans beyond the doubts of the most skeptical Kansan, it seems likely that there will always be psychological objections to the idea of a half a million years' worth of man-made hell simmering under the earth's surface.

—CONSTANCE HOLDEN

## RECENT DEATHS

**David B. Allman**, 79; former president, American Medical Association; 30 March.

**William C. Arsem**, 90; retired consultant, Office of Naval Research; 11 February.

**M. Helen Barton**, 79; professor emeritus of mathematics, University of North Carolina, Greensboro; 19 March.

**Byron N. Cooper**, 58; chairman, geological sciences division, Virginia Polytechnic Institute and State University; 26 March.

**Matthew E. Dunlap**, 79; retired scientist, U.S. Forest Products Laboratory, Madison, Wis.; 18 March.

**Sherwood D. Fox**, 53; chairman, sociology and anthropology department, Union College, New York; 24 February.

**Jennings B. George**, 77; former president, Mississippi Southern University; 12 March.

**Carter Goodrich**, 73; professor of economics, University of Pittsburgh; 7 April.

**Frank A. Hartman**, 87; professor emeritus of physiology, Ohio State University; 21 March.

**Frank W. Hastings**, 52; head, artifi-

cial heart program, National Heart and Lung Institute, NIH; 25 March.

**Edward M. Holmes, Jr.**, 63; professor of public health and epidemiology, University of Alabama, Birmingham; 26 February.

**Herbert I. Horowitz**, 42; assistant professor of hematology, Cornell University Medical College; 31 March.

**Bela Jambor**, 54; professor of plant biochemistry, Eotvos Lorand University, Hungary; 30 January.

**John C. Keller**, 52; entomologist in charge, Western Cotton Research Laboratory, Phoenix, Arizona; 5 January.

**Mervin J. Kelly**, 77; former president, Bell Laboratories; 18 March.

**Otto Laporte**, 68; professor of physics, University of Michigan; 28 March.

**Elbert C. Lathrop**, 85; chemical engineering consultant, formerly with the U.S. Department of Agriculture; 4 March.

**Kathleen Lonsdale**, 68; former professor of chemistry, University College, London; 1 April.

**Eugene L. Opie**, 97; retired dean, Medical School, Washington University; 12 March.

**Benjamin H. Orndoff**, 90; former professor of radiology, Loyola University; 6 March.

**Robert D. Rands, Sr.**, 80; retired head agriculturist, Bureau of Plant Industry, U.S. Department of Agriculture; 10 December.

**Thornton B. Roby**, 46; professor of psychology, Tufts University; 23 February.

**Mary L. Sague**, 85; professor emeritus of chemistry, Vassar College; 12 March.

**Robert H. Shaw**, 52; professor of mathematics, Mary Washington College, Fredericksburg, Virginia; 6 March.

**William B. Sherman**, 63; former director, Roosevelt Hospital's Institute of Allergy; 2 March.

**Theodor H. E. Svedberg**, 86; former professor of physical chemistry, Uppsala University, Sweden; 25 February.

**Juris Veidemanis**, 47; professor of sociology, Wisconsin State University, Oshkosh; 20 February.

**Karl M. Wilson**, 85; former chairman, obstetrics and gynecology department, University of Rochester; 14 February.

**William B. Wood, Jr.**, 60; chairman, microbiology department, Johns Hopkins University; 9 March.

**Walter A. Young**, 88; former president, Friends University, Wichita, Kansas; 3 March.