demonstration project in which, by 1980, a small amount of Hanford wastes—made up to match chemically the wastes at Savannah River—would be solidified in glass, packaged in a few canisters, and transported to the WIPP.

That the commercial and military waste programs should now show what seems a growing dependence on Washington, Nevada, and New Mexico may be regarded as an entirely natural evolution. For, after all, the business and political establishments which run these states have long since grown accustomed to nuclear activities, including some that might seem a lot more threatening than burying radioactive wastes deep underground.

The production of plutonium began at Hanford in 1944, and the people of Richland, Washington, have been living near a growing inventory of radioactive wastes for 30 years. There are now some 50 million gallons of high level wastes buried at Hanford in scores of underground tanks, with the total inventory there being 2½ times the size of the one at Savannah River. Yet, despite the large leaks that have occasionally occurred, there has never been any storm of complaint.

Moreover, Washington has chosen for its governor Dixie Lee Ray, a former chairman of the Atomic Energy Commission. Two members of its congressional delegation, Senator Henry M. Jackson and Representative Mike McCormack, have been members of the now-defunct Joint Committee on Atomic Energy and are strong proponents of nuclear power development.

New Mexico can claim even greater distinction as a nuclear state inasmuch as the first atomic bomb was of course detonated there at the Trinity Site near Alamogordo, in 1945. Moreover, two of the nation's major nuclear weapons facilities, the Los Alamos and Sandia laboratories, are in New Mexico and make a significant contribution to the state's economic life.

Swaying Chandeliers

As for Nevada, it has experienced an almost inexpressible intimacy with the atom. For two decades now, nuclear weapons tests at the Nevada Test Site, including some powerful shots of up to 1 megaton, have been making the chandeliers sway over the gaming tables of Las Vegas.

In none of the three states does there seem to have been much of an outcry against storage or disposal of nuclear wastes, although there are antinuclear groups in all of them (the 1976 ballot initiative to curb the growth of nuclear power in Washington was rejected by the voters by more than 2 to 1). Substantial opposition could eventually develop, but those who are already opposed to waste repositories do not have the head start in mounting a campaign that like-minded individuals appear to enjoy in states such as Michigan, Georgia, and Louisiana.

Besides the apparent political acceptability of waste disposal in Washington, New Mexico, and Nevada, there are some plausible physical, demographic, and economic reasons for ERDA to investigate carefully the feasibility of establishing repositories in one or more of these states. The particular areas now being investigated are all sparsely populated desert regions that have no major freshwater aquifers or lakes in the vicinity.

(The fact that the Hanford reservation is bordered by the Columbia River could of course become a matter of concern; but ERDA officials describe the basalt formation in which the wastes would be emplaced as a "very dense, dry, tight structure" in which wastes would not be expected to migrate.)

The situation with respect to the areas of interest in the three western states is certainly far different from that in South Carolina and Michigan. For instance, in Michigan, ERDA contractors were planning to do test drilling at a site near Lake Huron.

Whatever the future of nuclear power, waste disposal is an urgent matter because of the wastes already created (*Science,* 18 February). There are 75 million gallons of high level military wastes alone and a smaller but radiologically potent inventory of commercial wastes. The high level wastes at Hanford are of particular importance; should it be necessary to solidify them in glass or cement and ship them in steel canisters to an offsite repository, the ultimate cost of disposal could be several times greater than the $6 billion required to dispose of the Savannah River wastes.

George W. Cunningham, ERDA's director of waste management, speaks hopefully of finding a relatively low-cost way to dispose of the Hanford wastes. One possibility he mentions is to mix the wastes in a grout that could be injected into caverns created deep within the basaltic rock formation beneath the reservation. Any high level commercial wastes disposed of in this formation would of course have to arrive in solidified form and be packaged in canisters.

No geologic repository, military or commercial, will be fully operational anywhere in the United States before the late 1980's. (A stopgap solution for some commercial wastes could be provided before then with construction of one or more surface repositories for retrievable storage of spent unreprocessed fuel.) And, if ERDA were not now giving a new emphasis to investigating possible repository sites in the three western states most comfortable with the atom, there might be little chance of having even one geologic repository by sometime in the next decade.

—LUTHER J. CARTER

RECENT DEATHS

George K. Green, 65; physicist and former chairman of the accelerator department, Brookhaven National Laboratory; 15 August.

Fred J. Hodges, 81; former chairman of radiology, University of Michigan; 29 July.

John J. Honigmann, 63; professor of anthropology, University of North Carolina, Chapel Hill; 4 August.

Erratum: In the report by M. J. Moses, L. B. Russell, and N. L. A. Cacheiro [*Science* **196**, 892 (1977)], "Ohno and Cattanach's translocation" should have read "Cattanach's translocation." This was an editorial error. The X-autosome translocation was first described by B. M. Cattanach [*Z. Vererbungs.* **92**, 165 (1961)]; irregular pairing of the X and Y chromosomes in this translocation was subsequently reported by S. Ohno and B. M. Cattanach [*Cytogenetics* **1**, 129 (1962)].

Erratum: In the article "Australia antigen and the biology of hepatitis B" by B. S. Blumberg (1 July, p. 17) there are two errors which should be corrected. On page 20, in the section "Virology," paragraph 2, line 5, "millimeters" should be "nanometers" and later in the same paragraph "mm" should be "nm" (lines 11, 13, and 15). On page 23 in the section "Transmission by insects," paragraph 1, line 20, "*Amex lectulorius*" should read "*Cimex lectularius*."

Erratum: In the report "Angiotensin converting enzyme . . . macrophages in culture" by J. Friedland *et al.* (1 July, p. 64), paragraph 4, line 5, "millimeter" should read "milliliter."

Erratum: In the report "Fatty acids . . . smooth muscle cells" by J. J. Huttner *et al.* (15 July, p. 289), Table 1 was reset after the authors had approved their galleys. Through faulty proofreading at *Science*, an omitted line was not detected and the table as printed is meaningless. The body of Table 1 should read

Incubation	PGE (pg/ml)
Complete media	<10
+ SM*	230
+ SM + 180 μM $C_{18:1}$	280
+ SM + 160 μM $C_{20:3}$	4000
Complete media	18
+ SM	102
+ SM + 160 μM $C_{20:3}$	5050
+ SM + 160 μM $C_{20:3}$ + 11.2 μM indomethacin	650
+ SM + 160 μM $C_{20:4}$	1300
+ SM + 160 μM $C_{20:4}$ + 5.6 μM indomethacin	540

*SM designates smooth muscle cells.