creasing radioactive contamination of the sea and atmosphere may make the detection of tracers impossible.

The accumulated radioactive waste products of a world-wide atomic power industry may represent more radiation than would be released in an atomic war. A national agency should control and keep records of all dumping of radioactive material in the ocean, and an international body should set up without delay safe standards, based on present knowledge, for the marine and air disposal of waste materials.

Accelerated research is needed in the following fields: genetics; radiation pathology; mixing between various parts of the atmosphere and the oceans; the concentration of radioactive materials by plants and animals; the geophysical and geochemical aspects of the ultimate disposal of radioactive wastes; the selection of biologically suitable sites for various atomic facilities; and safety devices for the control of accidental power surges in nuclear reactors.

Accidents in Nuclear Work

The British Atomic Energy Authority has announced that Graham Hawkins, a senior experiment officer, died of an electric shock suffered during tests of the Harwell Research Center's new proton particle accelerator. Hawkins was the first victim of a research accident at Harwell.

A serious breakage a year ago in Britain's biggest atomic explosives factory, and the heroism of 251 volunteers of the staff who kept the plant going, has also been reported. The volunteers, working in the face of intense radioactivity, welded a broken plate in a reactor and maintained production. They took turns manipulating welding equipment at the ends of 60-foot flexible arms thrust through holes in a protective screen.

The volunteers, both men and women, were allowed to work only a few minutes at a time—and in that time received the equivalent of 2 weeks of radiation exposure.

The accident occurred in one of two reactors at Sellafield, which makes plutonium. If the plant had been shut down, Britain would have lost a large part of her plutonium output.

Another accident, fortunately far less serious, has been reported in the United States. The Atomic Energy Commission announced recently that at least 15 persons, workmen and others engaged in the construction of a power reactor, had been exposed to "small doses" of gamma radiation at Fort Belvoir, Va., but that the amount was "not serious."

The AEC said that a bit of radioactive iridium, used in the x-ray examination of welds, "was removed from its shielded container and, contrary to standard practice, left unshielded for about three hours. . . . The amount of radiation to which the men were exposed was considerably lower than any which could result in an observable clinical effect."

What Happens to Science Fair Participants?

Alan T. Waterman made the following observations about the future of high-school science students in a speech delivered at the recent National Science Fair in Oklahoma City, Okla.

"So perceptive are the judges who evaluate your exhibits that I am able to read your futures. Would you like to know what you will be doing in the next few years? Of the 213 present at this Seventh National Science Fair, 187 of you will actually become scientists or engineers. . . . So expert has been the selection of former judges that we know that 88 percent of those whom they send to the national competition will go on to make science or engineering their career.

"A survey of the 248 young people named as finalists in the first five National Science Fairs developed the following information: of 85 percent who replied, 131 were in colleges or other institutions of higher learning, attending 83 institutions in 28 states, 58 were still in high school, 12 were in full-time employment, eight were in the armed service, and four were devoting full time to homemaking and child care. Interesting to you will be the career choices of the 131 college students: 41 were in physical science (chemistry 27, physics 13, biochemistry 1), 31 in engineering, 28 in biological science and medicine, 13 in miscellaneous science, and 10 in miscellaneous non-science."

Recent Archeological Finds

Salim Abdel Abdulhak, head of the Syrian Archaeological Department, Damascus, Syria, has reported the discovery of the 4000-year-old seaport city of Semira, which he describes as a "treasure mine of Phoenician, Aramean, Assyrian, and Greek archaeological finds." The city, which is in northern Syria, vanished at about the end of the Greek Empire, before the birth of Christ. United States, French, British, and Belgian expeditions have been trying to find it for a century but failed because they excavated along the seacoast. Semira was located about 3 miles inland, probably as protection against pirates.

Other recent archeological finds are seven Roman graves in Yugoslavia and a large source of Stone Age flint instruments in Jordan. The graves were excavated in a park near St. Mark's Church in the center of Belgrade. They bear the seal of a Roman legion and date from the second to the fourth centuries A.D. They appear to have been plundered by grave robbers, perhaps several centuries ago.

Workers clearing a spring under the direction of the United States International Cooperation Administration made the flint find at Qasr Azraq oasis, about 50 miles east of Amman. More than 500 artifacts of many sizes have been excavated and the workmen continue to turn them up. Some of the items appear to date back to the Lower Palaeolithic period, about 200,000 years ago. The flints are principally oval or roundish handaxes, ranging in size from 2 inches across to one of approximately 10 inches. This source of prehistoric instruments is considered to be one of the richest ever discovered.

Signals from Venus

The planet Venus has been heard from for the first time. Several times during May Ohio State University's Radio Observatory received strong radio signals. On each occasion the signals, crackling sounds like static, were observed distinctly for a period of several hours.

Venus, which is often called the earth's twin, is nearly the same size as the earth and comes closer to it than any other planet. In the evening it is the brightest object in the western sky. Before 22 June it was approaching the earth at the rate of 500,000 miles per day; on that date it reached its nearest point, 27 million miles, and then started to recede.

Conditions on Venus are not known because it is perpetually covered by clouds. The planet is the second from which radio signals have been received. Last year observers at the Carnegie Institution, Washington, D.C., picked up radio sounds from Jupiter, and since early this year studies of the Jupiter signals also have been made at Ohio State.

Assistance for Germany

Franz Josef Strauss, German Minister for Atomic Problems, recently said of his visit to the United States:

"As compared to the big nations of the world we have a backlog of 10 to 15 years with regard to the peaceful development of nuclear energy. The gate leading to the atomic era is closed to us, as it were. To open it, and to catch up with international developments more speedily, we need the assistance of the big