

Nuclear reactions

Wormwood Forest: A Natural History of Chernobyl

by Mary Mycio

Joseph Henry Press: 2005. 286 pp. \$27.95

Brenda Howard

The Chernobyl nuclear accident in April 1986 was swiftly followed by a large-scale evacuation of an area around the plant, including territory in both Ukraine and Belarus. Although the rural residents and inhabitants of the major town of Pripyat were evacuated, the exclusion zone is still occupied by many thousands of people. Most of them are associated with the continuing activities at the Chernobyl nuclear facilities, but some are rural residents who have returned to live in their previously abandoned villages.

In *Wormwood Forest*, Mary Mycio, a journalist with an ethnic Ukrainian background, provides the reader with a vivid impression of what the exclusion zone around the Chernobyl plant is really like. She first visited the zone ten years after the accident, and describes the many people who assisted her on her visits, the local people she met, and the various bureaucratic niceties involved in administering and visiting the zone.

The book starts by correcting a commonly held mistaken impression that Chernobyl takes its name from the Ukrainian word for wormwood, a medicinal herb. *Chornobyl* is actually mugwort, *Artemisia vulgaris*, not wormwood, which is *A. absinthium*. It is odd, then, that the book is titled *Wormwood Forest*

and has an associated quote on the cover: "And the name of the star is called wormwood; and the third part of the waters became wormwood; and many men died of the waters because they were made bitter."

A large part of the book focuses on the wildlife that has flourished in the exclusion zone since the removal of human influence, and describes how the extent of radionuclide contamination varies with species. Mycio describes her encounters with many animals including storks, deer, moose, wild boar and the introduced Przewalski's horses. Although the focus is on the natural history of the zone, other key issues addressed include radioactive-waste problems, concerns about the various water bodies, and the radiological consequences of the accident.

The author has clearly made a considerable effort to understand the complex social and scientific issues connected with the region and has managed to explain them to the lay reader in a refreshingly clear, yet interesting, style. The blend of social comment, personal impressions and science is unusual and makes for an informative read. Her explanations of the basics of radioactivity and the issues relating to the accident and its consequences are mostly sound and easy to understand.

For scientists with some knowledge of radioecology, however, her attempt to describe some of the issues surrounding radioactive contamination in plain (and sometimes rather colourful!) language has led to a few conclusions being too generalized. Many radioecolo-

IMAGE
UNAVAILABLE
FOR COPYRIGHT
REASONS

All change: contamination from Chernobyl has led to defects in a range of plants and animals.

gists might disagree with some of her rather sweeping statements about the importance of processes such as resuspension, fire or the lateral transport of radioactivity. Some statements by people quoted in the book seem to be incorrect, although they are at least presented as quotes. And many scientists will be frustrated by the decision not to use references when discussing scientific studies, as there are always some studies of which you are unaware (especially in the Russian-language literature).

There is great variability in the extent to which different ecosystem components have been contaminated by the dominant long-lived radionuclides radiocaesium, radiostrontium and plutonium, as the author acknowledges. However, she sometimes refers to single measurements with no indication of the associated error (probably because in many cases it doesn't exist). Conclusions based on such limited information are inevitably susceptible to criticism.

For much of the book, Mycio refers to readings of the external dose and to the colours of contamination maps to give an impression of the extent of contamination of each area. She often comments on how 'high' or 'low' the readings are and whether she feels this to be safe or not. She uses a similar approach when considering radioactivity in a food product, often referring to the national limits on the number of becquerels used by the Ukrainian and Belarusian authorities. These limits are lower than internationally agreed limits and those of many other countries, so it would have been useful to have more information about them to provide context for readers.

This book is not a key reference source for information on radionuclide contamination of the environment close to the Chernobyl reactor, but then it doesn't claim to be. It is very much a personal reflection that successfully debunks many of the more outrageous myths and rumours about the region, and is an interesting and mostly enjoyable read. ■

Brenda Howard is at the Centre for Ecology and Hydrology, Lancaster Environment Centre, Library Avenue, Bailrigg, Lancaster LA1 4AP, UK.

J. COOPER/NOVA/MEDIA



EXHIBITION

Collectors' items

In the exhibition *Saved by Science*, Justine Cooper takes us on a voyeuristic journey through the labyrinth of vaults in the American Museum of Natural History in New York. The photographs and video footage capture a behind-the-scenes glimpse of one of the world's largest and most valuable scientific collections. Many of the specimens seen are not normally on public display.

Some of the images are beautiful, others grotesque — such as the monkey fetuses curled in mock sleeping position in preservation jars.

The museum, with its 25 interconnected buildings and vast vaults, spans four blocks. A five-minute video wanders through corridors dotted with cabinets of specimens, and a soundtrack of screeches, chirps and babblings seems to bring the specimens — such as the yellow honeyeaters shown here — to life.

Saved by Science can be seen at the Mary Place Gallery in Sydney, Australia, from 25 October to 6 November 2005. **C.D.**