Preface

Thanks to our news media, today’s lay person may be familiar with such environmental topics as ozone depletion, global warming, greenhouse effect, nuclear and toxic waste disposal, massive marine oil spills, acid rain resulting from atmospheric $\text{SO}_2$ and $\text{NO}_x$, contamination of the marine commons, deforestation, radioactive leaks from nuclear power generators, free chlorine and CFC (chlorofluorocarbon) effects on the ozone layer, mad cow disease, pesticide residues in foods, green chemistry or green technology, volatile organic compounds (VOCs), hormone- or endocrine-disrupting chemicals, declining sperm counts, and immune system suppression by pesticides, just to cite a few. Some of the more current, and perhaps less familiar, additions include xenobiotic transport, solute transport, Tiers 1 and 2, USEPA to cabinet status, and zero-discharge. These are only the most prevalent topics of national interest. In more localized settings, residents are faced with leaking underground fuel tanks, movement of nitrates and industrial solvents into groundwater, air pollution and “stay-indoors” alerts in our major cities, radon seepage into homes, poor indoor air quality, chemical spills from overturned railroad tank cars, suspected health effects from living near high-voltage transmission lines, and food contamination by “flesh-eating” bacteria and other fungal or bacterial toxins.

It should then come as no surprise that the ‘90s generation is the first of mankind to have become afflicted with chemophobia, the pervasive and acute fear of chemicals.

There is abundant evidence, however, that virtually all organic chemicals are degraded or dissipated in our not-so-fragile environment, despite efforts by environmental ethicists and the media to persuade us otherwise. However, for most scientists involved in environmental contaminant reduction, there is indeed room for improvement in all spheres.

Environmentalism is the newest global political force, resulting in the emergence of multi-national consortia to control pollution and the evolution of the environmental ethic. Will the new politics of the 21st century be a consortium of technologists and environmentalists or a progressive confrontation? These matters are of genuine concern to governmental agencies and legislative bodies around the world, for many serious chemical incidents have resulted from accidents and improper use.

For those who make the decisions about how our planet is managed, there is an ongoing need for continual surveillance and intelligent controls to avoid endangering the environment, the public health, and wildlife. Ensuring safety-
in-use of the many chemicals involved in our highly industrialized culture is a
dynamic challenge, for the old, established materials are continually being dis-
placed by newly developed molecules more acceptable to federal and state regul-
atory agencies, public health officials, and environmentalists.

Adequate safety-in-use evaluations of all chemicals persistent in our air,
foodstuffs, and drinking water are not simple matters, and they incorporate the
judgments of many individuals highly trained in a variety of complex biological,
chemical, food technological, medical, pharmacological, and toxicological disci-
plines.

*Reviews of Environmental Contamination and Toxicology* continues to
serve as an integrating factor both in focusing attention on those matters
requiring further study and in collating for variously trained readers current
knowledge in specific important areas involved with chemical contaminants
in the total environment. Previous volumes of *Reviews* illustrate these ob-
jectives.

Because manuscripts are published in the order in which they are received in
final form, it may seem that some important aspects of analytical chemistry,
bioaccumulation, biochemistry, human and animal medicine, legislation, phar-
cymology, physiology, regulation, and toxicology have been neglected at times.
However, these apparent omissions are recognized, and pertinent manuscripts
are in preparation. The field is so very large and the interests in it are so varied
that the Editor and the Editorial Board earnestly solicit authors and suggestions
of underrepresented topics to make this international book series yet more useful
and worthwhile.

*Reviews of Environmental Contamination and Toxicology* attempts to pro-
vide concise, critical reviews of timely advances, philosophy, and significant
areas of accomplished or needed endeavor in the total field of xenobiotics
in any segment of the environment, as well as toxicological implications.
These reviews can be either general or specific, but properly they may lie
in the domains of analytical chemistry and its methodology, biochemistry,
human and animal medicine, legislation, pharmacology, physiology, regu-
lation, and toxicology. Certain affairs in food technology concerned specifi-
cally with pesticide and other food-additive problems are also appropriate sub-
jects.

Justification for the preparation of any review for this book series is that it
deals with some aspect of the many real problems arising from the presence of
any foreign chemical in our surroundings. Thus, manuscripts may encompass
case studies from any country. Added plant or animal pest-control chemicals or
their metabolites that may persist into food and animal feeds are within this
scope. Food additives (substances deliberately added to foods for flavor, odor,
appearance, and preservation, as well as those inadvertently added during manu-
facture, packing, distribution, and storage) are also considered suitable review
material. Additionally, chemical contamination in any manner of air, water, soil,
or plant or animal life is within these objectives and their purview.
Normally, manuscripts are contributed by invitation, but suggested topics are welcome. Preliminary communication with the Editor is recommended before volunteered review manuscripts are submitted.

Tucson, Arizona                       G.W.W.
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