THE IDENTIFICATION OF MAN-MADE ENVIRONMENTAL HAZARDS TO HEALTH

THE IDENTIFICATION OF MAN-MADE ENVIRONMENTAL HAZARDS TO HEALTH

A Manual of Epidemiology

Michael E. McDowall

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For Pat, Jennie and Andrew, who live, happily, equidistant from a nuclear power plant, a toxic waste dump and a petrochemical complex.

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Preface

Many of the current pollution issues are characterised by scientific uncertainty about effects or causes and by pressure on government, usually by a vocal or well-organised section of the public, to take action before the outstanding scientific questions are answered. This leads to the question of the burden of proof of whether a substance presents a hazard and the related question of the risk of damage. Should a substance be regarded as innocent until proved guilty, or guilty until proved innocent? (Royal Commission on Environmental Pollution, *10th Report*. Cmd. 9149. HMSO, London, 1984)

The theme of this book is not the direct question posed here by the Royal Commission but the collection, analysis and interpretation of evidence on possible health hazards of man-made environmental pollution – evidence needed before that question can sensibly be answered or even attempted. It is in the nature of epidemiological enquiry, along with much other scientific research, that absolute proof is rarely attainable and decisions must be made on the balance of probability from such information as is available. This produces no less a premium, however, on the accurate and detailed collection of evidence on the effects of any hypothesised hazard.

The range and number of possible environmental hazards which have been raised in recent years is unlikely to abate as public awareness of potential dangers increases and the number of harmful substances in the environment also rises. Consequently, many individuals are likely to find the issues discussed in this book of direct relevance to them in future years. It is hoped that the bringing together of aspects of epidemiology relevant to environmental studies will prove of use to health professionals, national and local, and others caught up in investigating

these matters, as well as to members of the public concerned, directly or indirectly, to understand how potential environmental hazards are investigated and why so often no clear answer appears to emerge from the investigations.

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M. E. McD.