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Pathogens for War explores how Canada and its allies have attempted to deal with the threat of germ warfare, one of the most fearful weapons of mass destruction, since the Second World War. In addressing this subject, distinguished historian Donald Avery investigates the relationship between bioweapons, poison gas, and nuclear devices, as well as the connection between bioattacks and natural disease pandemics. Avery emphasizes the crucially important activities of Canadian biodefence scientists – beginning with Nobel Laureate Frederick Banting – at both the national level and through cooperative projects within the framework of an elaborate alliance system. Delving into history through a rich collection of declassified documents, Pathogens for War also devotes several chapters to the contemporary challenges of bioterrorism and disease pandemics from both national and international perspectives. As such, readers will not only learn about Canada's secret involvement with biological warfare, but will also gain new insights into current debates about the peril of bioweapons – one of today's greatest threats to world peace.

In 1993, the National Research Council's Committee on Toxicology developed criteria and methods for EPA and the Agency for Toxic Substances and Disease Registry (ATSDR) to develop community emergency exposure levels for extremely hazardous substances for the general population. A few years later, the National

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Advisory Committee for Acute Exposure Guideline Levels for Hazardous Substances (NAC)--composed of members of EPA, DOD, other federal and state agencies, industry, academia, and other organizations--was established to identify, review, and interpret toxicologic and other scientific data to develop acute exposure guidelines (AEGs) for high-priority, acutely toxic chemicals. Three levels--AEG-1, AEG-2, and AEG-3 are developed for each of five exposure periods (10 min, 30 min, 1 hr, 4 hr, and 8 hr) and are distinguished by varying degrees of severity of toxic effects. This current report reviews the NAC reports for their scientific validity, completeness, and consistency with the NRC guideline reports developed in 1993 and 2001. This report is the fifth volume in the series and covers AEGs for chlorine dioxide, chlorine trifluoride, cyclohexylamine, ethylenediamine, hydrofluoroether-7100, and tetranitromethane. It concludes that the AEGs developed by NAC are scientifically valid and consistent with the NRC guideline reports. AEGs are needed for a wide range of planning, response, and prevention applications. These values provide data critical to evacuation decisions and discussions between community leaders and industries as they seek ways to minimize the health impact should the chemical release occur. Some of the finalized AEGs have been officially adopted by the Department of the Army, FEMA, and the Department of Transportation as the official levels for use by those agencies. Legionnaires' disease, a pneumonia caused by the Legionella bacterium, is the leading cause of reported waterborne disease outbreaks in the United States. Legionella occur

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naturally in water from many different environmental sources, but grow rapidly in the warm, stagnant conditions that can be found in engineered water systems such as cooling towers, building plumbing, and hot tubs. Humans are primarily exposed to Legionella through inhalation of contaminated aerosols into the respiratory system. Legionnaires' disease can be fatal, with between 3 and 33 percent of Legionella infections leading to death, and studies show the incidence of Legionnaires' disease in the United States increased five-fold from 2000 to 2017. Management of Legionella in Water Systems reviews the state of science on Legionella contamination of water systems, specifically the ecology and diagnosis. This report explores the process of transmission via water systems, quantification, prevention and control, and policy and training issues that affect the incidence of Legionnaires' disease. It also analyzes existing knowledge gaps and recommends research priorities moving forward.

"I think that it is a marvellous book. I have learned a good bit from it. I am always happy to read a book written by a person who has a mastery of the English language. Also, in addition to the other good qualities of the book, it has the best index I have ever seen."

-Dr. Linus Pauling "As a contribution to the history of the American involvement in molecular biology, Kay's book is a work of considerable value, and it is written with clarity and intelligence." -Science "With grace and unerring intelligence, Lily Kay has written a history of molecular biology that all of us who work in the area have been waiting for. It will stand as a model for years to come." -Evelyn Fox Keller, University of

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California, Berkeley "The organizational history of Caltech is the loom on which Kay has woven an intricate fabric of the molecular vision of life. Among the threads are biographies of personal ambition; ideals and ideologies of social reform; and the intricacies of molecular biological science. Kay is one of a tiny handful of contemporary historians who combine mastery of archival materials and their narrative exposition with an informed grasp of modern science, and all bonded by sociological sensitivity. These textures refract, but do not obscure, how scientific advance is still impelled by the itch of curiosity, the thrill of discovery, and the pride of cognitive dominion-the contradictory rhetoric and complex motivations of academic entrepreneurs, foundation directors and wealthy donors notwithstanding. (The same surely holds for historical scholarship.)"

-Joshua Lederberg, Rockefeller University

This is the story of a visionary leader, Lynton Keith Caldwell, who in the early 1960s introduced the study of the environment and environmental policy at a time when such areas of expertise did not exist. Caldwell was a principal architect of the National Environmental Policy Act of 1969 and is recognized as the "inventor" of the Act's important environmental impact statement provisions, now emulated around the world. For the next three decades, Caldwell played a leading role in establishing ethics-based environmental policy and administration as major areas of inquiry in the United States and around the world. Through his tireless global travels, writing, and lectures, and his work with the US Senate, the IUCN, UN, and UNESCO, Caldwell became recognized

for his contributions to environmental ethics and the development of strong environmental planning and policy. This engrossing biography is based on interviews the author conducted with Caldwell and on unrestricted access to his memorabilia, photos, and records.

This timely book brings readers up to date on the wide range of advances made in fisheries science since the publication in 1957 of *On the Dynamics of Exploited Fish Populations* (Beverton and Holt), regarded by many fisheries scientists as one of the most important books on fisheries yet published. Traditional fishery subjects covered include historic declines and changes in fishing fleets, fisheries management and stock assessments, data-poor situations, simulation and modelling of fished stocks, fisheries economics, assessing reproductive potential and dispersal of larvae, fisheries for sharks and rays, and use of marine technology. Additionally, related subjects of increasing importance now that ecological approaches to management are coming to the fore are presented. They include benthic ecology, ecosystem changes linked to fishing, life history theory, the effects of chemicals on fish reproduction, and use of sounds in the sea by marine life. Several chapters offer stimulating philosophical discussion of the many controversial areas still existing. This significant book, edited by Andy Payne, John Cotter and Ted Potter and containing contributions by world-renowned fisheries scientists, including many based at Cefas (where Beverton and Holt's original work was carried out) is an essential purchase for fisheries managers

and scientists, fish biologists, marine scientists and ecologists. Libraries in all universities and research establishments where fisheries and biological sciences are studied and taught are likely to need copies of this landmark publication.

The pressure to be seen to be making cuts across the public sector is threatening to undermine both the Government's good record on investment in science and the economic recovery. Whilst the contribution of a strong domestic science base is widely acknowledged, methodological problems with quantifying its precise value to the economy mean that it is in danger of losing out in Whitehall negotiations. Scientists are under increasing pressure to demonstrate the impact of their work and there is concern that areas without immediate technology applications are being undervalued. The Committee believes the Government faced a strategic choice: invest in areas with the greatest potential to influence and improve other areas of spending, or make cuts of little significance now, but that will have a devastating effect upon British science and the economy in the years to come.

The different challenges posed by the growth of biotechnology have been keenly felt in Latin America. This work examines how biotechnology can be made to serve developing nations rather than provide another route for exploitation by First-World industry.

Dr. Donald J. Mrozek's research sheds considerable light on how the use of air power evolved in the Vietnam War. Much more than simply retelling events, Mrozek analyzes

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how history, politics, technology, and the complexity of the war drove the application of air power in a long and divisive struggle. Mrozek delves into a wealth of original documentation, and his scholarship is impeccable. His analysis is thorough and balanced. His conclusions are well reasoned but will trouble those who have never seriously considered how the application of air power is influenced by factors far beyond the battlefield. Whether or not the reader agrees with Mrozek, the quality of his research and analysis makes his conclusions impossible to ignore. John C. Fryer, Jr. Brigadier General, United States Air Force Commander, Center for Aerospace Doctrine, Research and Education

Volume 1 Report also available (ISBN 9780108444517). Genomic medicine has developed from the sequencing of the human genome

First multi-year cumulation covers six years: 1965-70.

Study & Master Life Sciences Grade 10 has been especially developed by an experienced author team for the Curriculum and Assessment Policy Statement (CAPS). This new and easy-to-use course helps learners to master essential content and skills in Life Sciences. The comprehensive Learner's Book includes: * an expanded contents page indicating the CAPS coverage required for each strand * a mind map at the beginning of each module that gives an overview of the contents of that module * activities throughout that help develop learners' science knowledge and skills as well as Formal Assessment tasks to test their learning * a review at the end of each unit that

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provides for consolidation of learning * case studies that link science to real-life situations and present balanced views on sensitive issues. * 'information' boxes providing interesting additional information and 'Note' boxes that bring important information to the learner's attention

Lists citations with abstracts for aerospace related reports obtained from world wide sources and announces documents that have recently been entered into the NASA Scientific and Technical Information Database.

February issue includes Appendix entitled Directory of United States Government periodicals and subscription publications; September issue includes List of depository libraries; June and December issues include semiannual index

Following Freud's death in 1939, the radical theories of Melanie Klein were the subject of prolonged controversy and fierce debate within the British Psychoanalytical Society. At the time, individuals fought passionately in support of their positions. In the midst of, or as a result of, the personal animosities and political manoeuvrings, important intellectual contributions were made, and practical decisions taken, which were to affect the development of psychoanalysis down to the present day. The Freud-Klein Controversies 1941-45 offers the first complete record of the debate, including all relevant papers and correspondence, based on previously closed archive material which is presented without censorship.

In Sputnik's Shadow traces the rise and fall of the President's Science Advisory

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Committee from its ascendance under Eisenhower to its demise during the Nixon years. Zuoyue Wang examines key turning points during the twentieth century, including the beginning of the Cold War, the debates over nuclear weapons, the Sputnik crisis in 1957, the struggle over the Vietnam War, and the eventual end of the Cold War, showing how the involvement of scientists in executive policymaking evolved over time and brings new insights to the intellectual, social, and cultural histories of the era.

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