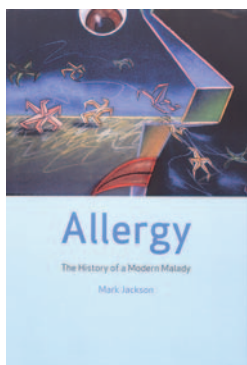


A modern epidemic

John Bastian

Allergy: The History of a Modern Malady
by Mark Jackson
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The great epidemics of the past resulted from infection: influenza, yellow fever and the plague. Today, these have largely been replaced by new epidemics of chronic disease—such

as cardiovascular disease and type II diabetes—the etiologies of which are as much social and economic as they are biological. In *Allergy: The History of a Modern Malady*, Mark Jackson traces one such epidemic from its roots in nineteenth-century immunology to its current status as one of the most pervasive maladies afflicting mankind. In doing so, he has written a remarkably concise, accessible, and yet intellectual account of the essential role that history has in understanding the socioeconomic, cultural, and environmental origins of allergy and other modern diseases.

Throughout the book, Jackson provides an historical overview of the term 'allergy', describing how its meaning has changed over time and how, at any one moment, its perception has varied between scientists, clinicians and the lay public. In 1905, Clemens von Pirquet, an Austrian paediatrician, coined the term 'allergy'—from the Greek meaning 'altered reactivity'—to comprise all host reactions to foreign agents that result in clinical symptoms. He believed allergy to be an integral stage in the course of disease, as a result of his observations of the parallel courses of infectious diseases and serum sickness reactions in the clinic.

This broad definition of allergy allowed the inclusion of a number of disparate disorders, such as serum sickness, hay fever,

eczema, asthma, food reactions and reactions to bee stings. There was substantial opposition from others, such as Nobel laureate Charles Richet, who advocated his own term 'anaphylaxis', and the pioneering American allergists Robert Cooke and Arthur Coca, who favoured the term 'hypersensitivity'. Jackson persuasively argues that von Pirquet's definition allowed the development of a medical specialty to treat these disorders, which share common mechanisms but affect different organs. One wonders, if Richet had prevailed, whether a child with atopic dermatitis, allergic rhinitis and asthma would today require the care of three specialists (dermatologist, otolaryngologist and pulmonologist) rather than an allergist trained to treat all three disorders.

Jackson continues this history of allergy with a discussion of the four-group classification of hypersensitivity developed by P.H.G. Gell and Robin Coombs in the late 1960s. Contrary to their intent, this system, together with the discovery of immunoglobulin E (IgE) in 1967, served to narrow the meaning of allergy for much of the medical community. Allergy became synonymous with, and limited to, the Gell-Coombs type I reaction that results from the activation of mast cells by IgE antibodies. However, at the same time, clinical ecologists regained von Pirquet's broader meaning and allergy became a "metaphor for the pathology of progress".

The marked rise in allergic disease prevalence in the past 50 years parallels the rise of the modern pharmaceutical industry. Although this increase has posed a challenge to the health systems of developed countries, it has also provided an unprecedented opportunity to pharmaceutical companies, leading to a plethora of new drugs, larger companies and greater profits. Jackson describes various theories to explain the pandemic of allergic disease, focusing on new risks generated by modern industrial society, including pollution, improved hygiene, changes in diet and exposure to chemicals. As the prevalence of allergic disease increases, the focus changes from the individual to the environment and the risks that accompany modern societies. Allergy is no longer viewed as immunity gone awry or the result of an atopic genotype, but rather as a warning

system, and even perhaps a last defence, against an increasingly hostile environment filled with chemicals and toxins.

Another main theme of the book is the development of allergy as a medical specialty. Jackson details the history of immunotherapy of hay fever and its key role in promoting the nascent specialty of allergy, focusing on John Freeman, a pioneer in the field of pollen immunotherapy. Freeman developed allergen extracts of pollens and later moulds for diagnostic and therapeutic purposes. It is likely that the mould that landed on Sir Alexander Fleming's famous culture plate came from mould allergy studies conducted in Freeman's laboratory. Jackson astutely relates how one leader's personal approach to clinical research shaped the first decades of immunotherapy research. Freeman eschewed quantitative methods and statistical analysis for a holistic, highly individualized approach. However, this adversely affected the perception of immunotherapy in the broader medical and scientific communities. In 1986, distrust of the scientific and medical communities, coupled with deaths from immunotherapy, led to the suspension of immunotherapy by general practitioners in the UK. Unfortunately, this action limited the availability of allergy therapy for much of the population at a time when hay fever and asthma were reaching epidemic levels. Many allergy sufferers turned instead to alternative providers, including clinical ecologists who expanded von Pirquet's broad definition of allergy to attribute almost all ills to the chemicals and foodstuff of modern life.

In the final chapter of *Allergy*, Jackson looks to the future. It is one balanced between the threat of ecologic disaster and the potential of biomedical research to cure allergy. Invoking the ideas of the microbiologist and philosopher René Dubos, Jackson notes that the future and the fate of allergy are unpredictable. However, one thing is certain; Jackson has written a compelling history for all serious students of allergy and other modern diseases.

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