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In particular, the modern histories of specific diseases offer ideal ground for a union of diverging sub-disciplines, and Victoria Harden's immensely readable and scholarly monograph on Rocky Mountain spotted fever elegantly demonstrates that a successful integration is possible. Beginning with the disease itself—a virulent, seasonal, and unpredictable affliction of the Bitterroot Valley in Montana—she traces the modern evolution of the biomedical sciences in America, without ever losing sight of the popular beliefs and fears, and the local economic pressures, which gave meaning to the efforts of the scientists involved in spotted fever research. Her task is perhaps made easier because spotted fever was first identified as a specific infection in the last years of the nineteenth century, and initially seemed to occur in virulent form only in the Bitterroot. Harden's lucid prose and breadth of perspective contribute much to the quality of this book, but the precise geographical location of her core subject and its defined historical span facilitate a cogent account. Her example might prove harder to follow in the case of other diseases.

Rocky Mountain spotted fever is one of a large group of spotted fevers of varying degrees of severity which occur throughout the world. Generally tick-borne, and caused by the micro-organisms known as *rickettsiae* (which also cause typhus), these fevers are diseases of nature: their cycles of transmission involve man only accidentally. The Rocky Mountain variety was responsible for fewer than two dozen cases a year, but its dramatic symptoms and high fatality rates (up to 70 per cent of cases) made it a serious problem in an area anxious to expand its apple-growing industry and nascent tourism. It was demand from within the Bitterroot that kept research going, with often precarious funding, in the early decades of this century.

The steps by which some control over the disease was achieved followed closely on developments in other areas of medical research. The discovery of arthropod vectors in the field of tropical medicine led the earliest scientific investigators of the Bitterroot's problem to the tick vector; work on typhus vaccines in the mid-1920s inspired the development of the first spotted fever vaccine (by a laborious and dangerous process of crushing infected ticks in salt solution); research on filterable viruses in the 1930s made possible new methods of preparing vaccine; the antibiotic revolution of the 1940s produced drugs effective against several rickettsial diseases.

Spotted fever research did not initiate great scientific discoveries; rather it benefited from them. In this book, unusually, we see how laboratory discoveries spread through widening research fields to influence practical measures of disease control and the lives of ordinary people.

Few disease histories are finite, as Harden reminds us. After twenty years' quiescence, Rocky Mountain spotted fever reappeared as a public health problem in the 1970s, when increased army training activity and a growing leisure industry brought more and more people into its native habitat, and new foci of the disease appeared in other areas. American medical researchers are still working to resolve the problems of diagnosis, therapy, and prevention presented by spotted fever. All who are wary of scientific medical history should read this book: it tells a fascinating story.

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H. PHILLIPS, *'Black October': the impact of the Spanish Influenza epidemic of 1918 on South Africa*, Pretoria, The Government Printer, 1990, 4to, pp. xix, 281, illus.

This is a welcome addition to the steadily growing list of modern studies of the world's most deadly influenza pandemic, as it must be one of the most complete and thoroughly-documented to appear in recent years. It is, however, Howard Phillips's doctoral thesis put into print, without any attempt at revision or updating. This means that the bibliography is already seven years out of date, and opportunities for comparison with recent work in Canada, Australia, New Zealand, and Sweden are missed. For a thesis, the treatment of influenza as a disease is extremely cursory; the absence of any reference to Edgar Hope-Simpson's articles or new work

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on influenza epidemiology by Patterson or Cliff, Haggett and Ord makes it now look distinctly dated. As befits a thesis, *Black October* is thickly studded with footnotes, sometimes four or five to a sentence, with a bewildering variety of abbreviations, only seven of which are listed on p. xi. Also irritating for non-South African readers are the untranslated quotations in Afrikaans.

Yet many commendable strengths remain, for readers willing to wade through the footnotes. Phillips appears to have scoured every conceivable archival source, official and private, and every newspaper, periodical, and public report between 1918 and about 1925 in search of even the briefest mention of influenza. In addition to over a hundred interviews with survivors, he has collected several hundred letters giving first-hand accounts of the epidemic. No wonder this thesis was seven years in the making; the depth and diversity of its evidential base is most impressive. Phillips candidly admits his reliance on official statistics, which he says are "probably reasonably accurate" (p. 157) for Whites and Indians, but very incomplete for Blacks. Estimates of total mortality range from 139,471 to 511,726; Phillips plumps for about 300,000 (p. 178), giving a death rate of 43.9 per 1000, one of the half-dozen highest worldwide. This book is likely to remain the definitive work on this pandemic for South Africa. But it also highlights the need for more comparative work and a fresh survey to replace those by Richard Collier and Al Crosby (the latter, published in 1976, has also just been reprinted without revision).

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TERRY COPP and BILL McANDREW, *Battle exhaustion: soldiers and psychiatrists in the Canadian Army, 1939–1945*, Montreal and Kingston, McGill-Queen's University Press, 1990, 8vo, pp. xvi, 249, illus., £28.45.

A preoccupation with weapons, technology and grand strategy, argue Terry Copp and Bill McAndrew, has led historians to ignore the human dimension of battle. Making use of recent research into what has become known as "battleshock", the authors examine the reactions of Canadian Army troops to the circumstances of combat and military life. Their primary concern, however, is to chart military and medical attempts to deal with battle exhaustion and other "psychiatric" problems among conscript soldiers. Copp and McAndrew are critical of military men who emphasized discipline over psychiatric treatment, and of Canadian army psychiatrists who viewed battle exhaustion as a personality disorder rather than a symptom of acute stress to which anyone was liable. They are sympathetic to those psychiatrists in the field who helped develop more humane and appropriate methods of diagnosis and treatment.

Leading Canadian army neuropsychiatrists were confident that most psychiatric cases could be effectively treated with rest, food, and sympathy. These views fitted the needs of the army, which was anxious to maximize its manpower in the event of hostilities. By 1941 there was a severe shortage of skilled manpower, and the army came under increasing pressure to adopt methods of personnel selection, so that the more able recruits could be channeled into technical positions; the less able, as in Britain, into the infantry. The introduction of intelligence and aptitude testing opened an avenue to psychologists, hitherto marginalized in the Royal Canadian Army Medical Corps (RCAMC) and in Canadian academic life: increasingly, the army psychiatric service came under the influence of those who saw themselves as social engineers. Initially opposed to testing, Canadian neuropsychiatrists eventually embraced it as an opportunity to increase their own numbers and status within the RCAMC.

But the experience of combat wrought a change in army psychiatry throughout the Allied camp. The experiences of psychiatrists in the Alamein campaign forced them to come to terms with the reality of nervous exhaustion in battle, although most Allied armies were reluctant to institutionalize the methods of forward treatment developed by psychiatrists in the field. After the invasion of Sicily, Canadian forces saw action for the first time, yet most psychological breakdowns in the Italy campaign were due not to combat stress but to fear of conflict, and lassitude among troops away from the battlefield. Venereal disease, desertion, and