

in mining areas being of particular concern to officials. He then tells us that infection could be encouraged not only by the job itself but also by a social life centred on heavy drinking in noisy crowded pubs and the Western climate. The providence of this statement is unclear. He goes on to cite an epidemiological test in Rosebery school that gave 'alarming' results, and discusses the 'further troubles [which] later arose when the local medical office declared himself unqualified in radiology, and the hospital jibbed at taking x-rays for the Division'. He then notes, 'Defying earlier optimists, Queenstown long supplied sufferers'. Finally, in this same paragraph, he introduces another unrelated theme: 'In February 1972 the region's medical officer rebuked the Division for causing anguish through the indeterminacy of its advice when asking that people attend further examination'. Thus we are given plenty of information, but there is a frustrating lack of discipline in organising the material effectively and giving it meaning.

Occupational tuberculosis, particularly relating to mining, is an underlying theme that warrants greater attention. 'Tuberculophobia' is another. How these differed from what occurred elsewhere is for others to discover; Roe considered this beyond his remit. He was clearly hampered by the absence of studies in other Australian states, yet shows no interest in engaging in larger historical debates or assessing how his history contributes to the historiographies of either tuberculosis or Tasmania. His book will prove useful for others writing on the history of tuberculosis in Australia, though they will be left to draw out the relevance; Roe has not done it for them.

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The Birth of the Cell. By Sir Henry Harris (Yale University Press, 1999, xii + 212).

A Regius professorship at Oxford might be seen as a glorious accolade for a brilliant career. A knighthood, in addition, is an honour of some consideration, while an FRS is a yet greater distinction. But Sir Henry Harris has surpassed himself by writing a magnificent history. It deals with the discovery of the cell and is called *The*

Birth of the Cell. He recognises that much of what was written earlier was 'received wisdom rather than meticulous historiography', and he hopes with this work to allow 'out of a sea of errors, an approximation to the truth to finally emerge'.

Those who recollect him from his Sydney University days, first in Arts and then in Medicine, smile and say something like 'whizz-kid!' He might have been overconfident and he probably still is, but his book proves convincingly that he does know it all. This work, seemingly the fruit of many years of research and reflection, is breathtaking in the scope of its research. It involves a mastery of French and German, but what impresses most is his understanding of what people were saying and failing to say when the frames of biological reference were infinitely different to those of today. It is easy to decide, and relatively easy to say with reasonable accuracy, who was the first person to report this or that. Much more difficult is to unravel what they were thinking, in what discourse they were involved, and whether their statements were truly supported by their findings.

Sir Henry Harris is not only a great pathologist he is an Olympian amongst medical historians. He reaches a standard we rarely witness. While the cover is an unhappy triviality, though I would have trouble suggesting a better one, the text is a royal treat; history at its luxurious textured best. Does all this sound like unnecessary hyperbole? Am I a relative of his or his debtor? Not at all. There is no other factual and honest way of referring to the book now before us. Harris has read deeply into the works of all the protagonists in this saga of cellular discovery. He knows the disputes and sometimes the personalities. In an idiomatic rather than an anatomical pathological sense, he knows where the bodies are buried. He reallocates the credits normally bestowed on pioneers in cell morphologists. He reassesses Leeuwenhick and Schwann.

Remak, who is credited with drawing attention to binary cell division, turns out to be one of Harris' heroes, as is François Vincent Raspail (1794–1878). Many will know the magnificent Boulevard Raspail in Paris and wonder why a microscopist should be so signally honoured. In truth, Raspail is remembered for his political role. He was a democrat, a freethinker and a socialist. His life invites comparison with that of Virchow, also a man of the Left, but Raspail spent some years in prison. Raspail was also responsible for the wide use of camphor, an erroneous therapy that survived for

nearly a century.

The story develops from the first sighting of a cell, then the recognition of its wall, next that there is a cytoplasm, and a later realisation that there is a nucleus too. Following this came knowledge of cell division and later chromosomes, and the battle victory declared by Boveri who announced that there was no question that chromosomes contained genetic instruction; the search now was for how that was achieved. We are already far down that road.

It would be pleasing to be able to say that national rivalries no longer have a baleful influence on the development and diffusion of medical knowledge. (The shame today is that medical drugs and expertise available in the prosperous world is denied to poor nations.) Harris gives good examples of the rivalry between France and Germany, the result of which was miserly non-acknowledgment of the pioneering work of a foreigner or ignoring what they had discovered. It was on this basis that the Czech Purkinje was underestimated and, of course, that Jewish scientists were either ignored, denied academic reward or both.

I predict that this book will be the last on the subject; its writing is masterly, its argument compelling. Harris might have seemed a know-all in his youth. About the cell, he does perhaps know all.

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The Gospel of Germs, Men, Women, and the Microbe in American Life. By N. Tomes (Harvard University Press, 1998, xv + 351).

In this study of the movement of germ consciousness from the laboratory into American society during the period 1890 to 1930, Nancy Tomes provides fresh and stimulating insights into the negotiations from which emerged a range of beliefs and practices relating to the avoidance of disease. Her central concern has been to examine the relationship, in this society, between scientifically based ideas about illness and the social practices in disease avoidance which give these ideas meaning.

This period is significant because it marked a shift away from a sanitary science focused on disease-bearing emanations from col-