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RUSSELL BURNS, *John Logie Baird, Television Pioneer.*

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The notion of television was circulating from the 1870s, indeed as soon as the telephone had been demonstrated. 'Practical television' was 'demonstrated' during the 1920s (although a wealth of assumptions underlie these terms), and became widely accepted as a feasible technology by the mid 1930s. In this book, Russell Burns provides a detailed biography of the most important British innovator in television of this period, John Logie Baird.

This is a technical history firmly centred on, and elucidated by, Baird the inventor/entrepreneur. Following a technical school training in electrical engineering, the young Baird embarked on a series of abortive entrepreneurial schemes, including ideas for artificial diamond-making, boot polish recipes, borax-impregnated 'undersocks' (which he successfully marketed for "soldiers' feet" until one of his periodic illnesses laid him up), jam production during a year-long sojourn in Trinidad, and pneumatic insoles. These early anecdotal episodes are drawn principally from Baird's own reminiscences. Subsequent periods are more richly documented by interviews, previously unpublished letters, reminiscences and newspaper reports. Indeed, Burns attempts to fill in the details lacking in the many previous biographies with cross-referenced data.

As a whole, the book is a very detailed and well-researched narrative of Baird's technical life, and particularly of his period of greatest fame, during his promotion of mechanically-scanned television between 1923 and 1936. This presents a sketch of the dealings of his firms, and a much more detailed discussion of the technical basis of his methods. It is rather less revealing about Baird's work of the late 1930s (after his Crystal Palace studio burned in 1936), during which he worked on improved cinema television, stereoscopic television and high-resolution colour television. Compared with Baird's quite modest technical achievements and long devotion to mechanical solutions, his later work on 600 line colour television appears both surprising and baffling. How did this inventor make the technical leap to a system that is recognisably kin to the systems that were standardised after the second world war?

As a technical history, the book is clearly Baird-centred. There are, however, some good discussions of other developers. A comparison of the work at the British Admiralty during the early 1920s illustrates their very different motivations and technical constraints. Baird's own technical assumptions led him to the straight-jacket of 30 line television, a 7:3 aspect ratio suited for head-and-shoulders reproduction of individuals, and the restriction to a bandwidth suitable for medium-wave radio broadcasts. But within these very constrained parameters he was able to piggy-back on existing technologies. He soon

demonstrated television recordings on disk ('phonovision') and transatlantic television (using short-wave radio transmission). A side-effect of the photo-cells that he employed – sensitivity to infrared wavelengths – allowed him to tout 'noctovision', or night-television, to the government. This largely promotional activity by Baird leads the author to a notable diversion in an otherwise coherent book: to a long discussion of infrared detection for military purposes. Little of this was relevant to Baird's experience or well received by the Admiralty. The episode serves as an opportunity, however, for Burns to quash the myth that Baird had contributed to radar development. Similarly, he relates that archives reveal no consulting by Baird to the government during the Second World War. Such careful detail valuably corrects errors propagated in other secondary literature. Critical appraisals by Bell Laboratories, AT&T and the BBC lead Burns to conclude of Baird that "his understanding and knowledge of television systems...was considerable and appropriate for the 1920-30 decade" (p. 241).

There are some notable omissions from this otherwise detailed book. There are very few illustrations of television images, which improved so dramatically over a decade. Nor is a clear sense given of the economics motivating business decisions. Instead, the author provides details of share distribution and lists of employees. Baird's relationship with the BBC – so important to his progress – is never directly assessed. We are left to infer the reasons for the "large measure of confidence of producers, artists and technicians" for the rival electronically-scanned Marconi-EMI system by 1936.

This biography also strains to transcend the technical. What of Baird the man, and an appreciation of the direction and meaning of his work? A chapter on "Baird's personality" fits rather loosely with the rest of the book. The level of detail ranges from hints of a dalliance over several years with a married woman, to anecdotes recounting his coarse humour. Yet his 'dominant personality', 'timidity' and 'absentmindedness' are never marshalled to explain his professional dealings. Little is said about the 'antagonism towards Baird' hinted at in the Preface. Nor, tantalisingly, is there much treatment of the elaborations and uses made of the Baird myth after his death (although a few lines reveal that John Logie Baird Ltd., the last of his unsuccessful firms, was passed on as a trade name by a succession of companies, and that his name now adorns a primary school, a pub, an airbus and the headquarters of a rentals firm). The only analytical flavour is the comparison, repeatedly raised in this biography, between Baird and Guglielmo Marconi. The parallels, from early religious teaching to later career decisions, and the deeper significance underlying them, are never developed.

This is not a laudatory tale of hero-worship (although its final chapter is entitled "Two 'greats'"). It is a meticulously researched and historically cautious narrative of one man's technical life, with useful but not extensive illuminations of his direct competition. As a valuable perspective on an important case in the history of technology, this book will be of considerable interest to many readers.

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