



CHICAGO JOURNALS



History  
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Science  
Society

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Peter G. Ayres. *Shaping Ecology: The Life of Arthur Tansley*.  
Shaping Ecology: The Life of Arthur Tansley by Peter G. Ayres  
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*Isis*, Vol. 105, No. 2 (June 2014), pp. 446-447

Published by: [The University of Chicago Press](http://www.uchicago.edu) on behalf of [The History of Science Society](http://www.historyofscience.org)

Stable URL: <http://www.jstor.org/stable/10.1086/678012>

Accessed: 01/09/2014 10:04

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more when they became part of the Hindu social reform movement's drive to uplift women. Reformers successfully urged middle-class women to take up sewing both as a modern domestic duty and to support the family.

David Arnold argues that the foreign origin of small machines was no hindrance to their ready acceptance. Thus bicycles, like sewing machines, were also imported. By the 1890s, a significant number of bicycles began to appear in import trade statistics. The extension of urban and rural roads and the need for mobility in a growing market economy created the conditions for the widespread use of bicycles. Employers supplied them to office workers, low-level government servants like policemen, and postal and sanitation staff. Bicycles became a common sight in cities and towns and even penetrated the countryside. Also commonly visible in the villages was mechanized rice milling. With the component parts easy to replicate, rice mills to husk paddy were widely adopted. Rich peasants and trading communities led the way, seeing an economic advantage in milling over agricultural cultivation.

Typewriters did not achieve the ubiquity of sewing machines, bicycles, and rice mills, but they became a common sight in government offices, commercial establishments, courts, and political organizations. The typewriter brought women into the modern workplace, though initially they were largely Europeans and Indian Christians.

Modernizing goods were easily accepted, but the numbers were limited. In 1946, for example, there were only 4 bicycles per 1,000 inhabitants in India, compared to 255 in Britain and 463 in the Netherlands. The figures for sewing machines, typewriters, and rice mills were even lower. The problem was the cost. The price of imported machines was beyond the reach of most Indians. In spite of the demand for the small machines, no manufacturing developed in India because, as the nationalists charged, colonial tariffs and economic policies systematically favored imports. American manufacturers, who excelled in the production and marketing of small machines, carved out a large share in sales of typewriters, sewing machines, and rice mills. Remington typewriters and Singer sewing machines became household names in India.

What was the social and cultural impact of the entry of small machines on Indian life? Here, the contribution of *Everyday Technology* is anecdotal. It refers to the appearance of bicycles and typewriters in Indian novels but fails to explore the meaning of technological modernity in everyday life. We do not learn,

for example, how the tapping of keys, the pulling of levers, and the pushing of buttons affected the conception of writing as a hand-crafted, manual exercise. Nor are we told how sewing machines changed women's experience of domestic life. The book points to the association of bicycles with health and pleasure in advertisements but does not address how they changed the riders' experience of time and space. Failing to address these issues, it reads like a survey, touching on a number of interesting details but seldom digging deep. The result is that the term "everyday technology" in the book's title remains restricted to meaning items of daily use; it does not rise to provide an account of everyday technological life as a distinct space of modernity in colonial India. These flaws aside, the volume provides a useful overview of the presence of small technologies in colonial India that will be valuable for further research.

GYAN PRAKASH

**Peter G. Ayres.** *Shaping Ecology: The Life of Arthur Tansley*. xii + 213 pp., illus., bibl., index. Hoboken, N.J.: Wiley-Blackwell, 2012. \$99.95 (cloth).

This new biography of Arthur George Tansley, the British ecologist and psychologist, brings together a complete account of his life and work. Peter G. Ayres has done a fine job of constructing a likable and well-written history.

Tansley was a bigwig in the field of ecology. Born in London in 1871, he attended classes at the left-leaning Working Men's College before he began studying botany at the University College, London, and subsequently at Trinity College, Cambridge. From the mid 1890s he would promote the field of ecology in no uncertain terms as the founding editor of the *New Phytologist* and the *Journal of Ecology*, as a key president of the British Ecological Society, and, later, as professor of botany at Oxford until his retirement in 1937. Up to his death in 1955 he was the prime architect behind the Nature Conservancy and a mover in environmental policy issues in Britain and beyond. Ecologists today tend to remember him for coining ecosystem terminology.

Ayres provides the reader with both a detailed account of Tansley's professional life as a scientist and his personal and social contextual history. The book benefits from the fact that Ayres worked with and was taught by former friends of Tansley—and from Ayres's long ser-

vice to the same fields and journals to which Tansley contributed. Though Ayres clearly admires Tansley, the book is not a hagiography but, instead, a charming account of a scholar actively engaged in the society in which he lived. Historians looking for a contribution inspired by philosophy or sociology of science will probably be disappointed, as Ayres's biography is not informed by a particular methodological approach.

The heirs of Tansley have provided Ayres with new material and oral history, including information about Tansley's extramarital affair (though we still don't know her name). As readers of *ISIS* will recognize, there is often a woman behind a man, and in Tansley's case his mistress—or, more accurately, his guilt over having a mistress—propelled him to visit Sigmund Freud in Vienna for psychotherapy. Upon his return he wrote his best-selling book ever—*The New Psychology and Its Relation to Life* (1920)—which made him a public figure in Britain. He practiced as a psychologist for about two years before returning to biology. In the 1920s his name was easily recognized by academics beyond the closed circle of botanists and ecologists. For the rest of his life he would write extensively about psychology and Freud, including Freud's biographical memoir for the Royal Society. Tansley drew analogies between developments of the neurological systems of the brain and the evolution of ecosystems of nature, thus, in effect, restating the old biogenetic "law" that ontogeny recapitulates phylogeny.

Throughout his life Tansley engaged with an extensive list of scholars and social activists. His friends and contacts read like a Who's Who of the British academic scene in the interwar era. In addition to all the ecologists, for example, he discussed philosophy with Bertrand Russell and Robert Collingwood, inspired Virginia Woolf, and hung out with the famed neurologist Charles Sherrington, to mention just a few. Ayres's biography should thus be of interest beyond the circle of historians of biology.

This is not the first biography of Tansley: ecologists and historians of science—myself included—have written extensively about him. His life and work have provided a window into the politics and field of ecology. Ayres has drawn on this previously published material and has done his own archival work as well. The result is the most complete account of Tansley's life and scientific achievements to date. Some of the chapters are truly original, such as the account of Tansley's childhood, while others retell material that is largely known.

Ayres has done a fine job in bringing together new and exciting material about an important scientist. *Shaping Ecology: The Life of Arthur Tansley* is a valuable contribution to the history of ecology in Britain, worth both time and attention.

PEDER ANKER

**On Barak.** *On Time: Technology and Temporality in Modern Egypt.* xiii + 341 pp., illus., bibl., index. Berkeley/Los Angeles: University of California Press, 2013. \$29.95 (paper).

Time is central to On Barak's fascinating account of the cultural history of technology in colonial Egypt, and yet consideration of modern time's most obvious manifestations—clocks and watches—is delayed until the conclusion and even then amounts to little more than an afterword to a case already made. Instead, he demonstrates through a wide array of textual and visual materials, and from Arabic as well as Western-language sources, how various concepts of temporality were articulated through and embedded within the most conspicuous and emblematic technological innovations of the nineteenth and early twentieth centuries—the train, tram, telegraph, and telephone. Superficially, these technologies, their form and function familiar from established histories of Europe's reputed "tools of empire," appeared to do what historians have expected them to do: to compress time and space and to effect a homogenization of the modern world through the universalizing influence of steam and electricity and the corresponding curtailment of local peculiarities and prescientific "superstitions." The opening of the Suez Canal in 1869 and its linkages with the technologies of submarine cables and overland telegraphs seemed precisely to achieve this desideratum and to reinforce the idea of Egypt as a midway station between an increasingly interconnected East and West. Similarly, inside Egypt, trains, trams, telegraphy, and telephony could be expected to speed communication and transport and so facilitate external means of exploitation and control. To a degree, Barak argues, they did serve this function, though seldom unproblematically: trains rarely ran to schedule, telegraphs suffered breakdowns and delays. But technological modernity is not, in his view, a simple matter of imposition or an opposing resistance. Modernity acquires its meaning and temporality its substance precisely from the manner in which novel technologies creatively and imaginatively reconfigured culture and reconstituted experience in ways that