Comparative Studies in Society and History 2011;53(4):971–996.
0010-4175/11 $15.00 © Society for the Comparative Study of Society and History 2011
doi:10.1017/S0010417511000478

Cycles of Empowerment? The Bicycle and Everyday Technology in Colonial India and Vietnam

DAVID ARNOLD

University of Warwick

ERICH DEWALD

School of Oriental and African Studies, London

In recent years, discussion of technology in the nineteenth- and early-twentieth-century colonial world has moved away from earlier insistence on the centrality of imperial agency and the instrumentality of empire's technological "tools" of conquest and exploitation.[1] There has been a broad shift from diffusionist preoccupations with a one-way traffic in "technology transfers" that privileged Euro-American innovation and entrepreneurship,[2] to consideration of the "social life of things" within the colony.[3] This has corresponded with a move away from understanding technology through European representations of machines as the measure of the imperial self and colonized other, to rethinking technology's role in reconfiguring social hierarchies and cultural practices in colonized or semi-colonized non-Western societies.[4] Without ignoring

Acknowledgments: The authors wish to thank the Economic and Social Research Council in the United Kingdom for the research grant "Everyday Technology in Monsoon Asia, 1880–1960" that made researching and writing this article possible, as well as the anonymous readers for *Comparative Studies in Society and History* for their valuable comments.

[1] Daniel R. Headrick, *The Tools of Empire: Technology and European Imperialism in the Nineteenth Century* (New York: Oxford University Press, 1981).

[2] Daniel R. Headrick, *The Tentacles of Progress: Technology Transfer in the Age of Imperialism, 1850–1940* (New York: Oxford University Press, 1988); Roy MacLeod and Deepak Kumar, eds., *Technology and the Raj: Western Technology and Technical Transfers to India, 1700–1947* (New Delhi: Sage, 1995); Andrew Godley, "The Global Diffusion of the Sewing Machine, 1850–1914," *Research in Economic History* 20 (2001): 1–45.

[3] Arjun Appadurai, ed., *The Social Life of Things: Commodities in Cultural Perspective* (Cambridge: Cambridge University Press, 1986).

[4] Michael Adas, *Machines as the Measure of Men: Science, Technology, and Ideologies of Western Dominance* (Ithaca: Cornell University Press, 1989); Rudolf Mrázek, *Engineers of*

empire's importance in facilitating change or restricting the socio-economic parameters within which innovative technologies might operate, there has been a growing tendency to identify colonialism as a conduit for technological modernity rather than its primary embodiment. The colony is understood as a locally constituted, rather than merely imperially derivative, site for engagement with techno-modernity and its discontents. Scholars now commonly eschew emphasis on the implanting of "big technologies" such as railroads, telegraphs, steamships, modern weaponry, major irrigation works, and electrification systems (capital-intensive, often state-managed technologies that figured proudly in the rhetoric of imperial achievement),[5] in favor of the ways in which these were understood, assimilated, and utilized by local agency.[6] There has also been growing interest in small-scale, "everyday technologies," from the sewing machine, wristwatch, and radio, to the typewriter, camera, and bicycle. Colonial regimes were unable to monopolize or disinclined to control these, and they passed with relative ease into the work-regimes, recreational activities, social life, and cultural aspirations of colonized and postcolonial populations.[7]

In part, the discussion of colonially sited technology follows work on the "social construction" of technology in Europe and North America,[8] but there are salient differences, as exemplified by our subject in this article, the bicycle. Unlike their counterparts in Britain, France, and the United States, colonized subjects in India and Vietnam played no part in the initial fashioning and technological evolution of the modern safety bicycle (though they contributed to the later development of its regional derivative, the cycle-rickshaw). Since the process of techno-social co-construction occurred

Happy Land: Technology and Nationalism in a Colony (Princeton: Princeton University Press, 2002); Suzanne Moon, *Technology and Ethical Idealism: A History of Development in the Netherlands East Indies* (Leiden: CNWS Publications, 2007); Frank Dikötter, *Things Modern: Material Culture and Everyday Life in China* (London: Hurst, 2007); Ian J. Kerr, "Representation and Representations of the Railways of Colonial and Post-Colonial South Asia," *Modern Asian Studies* 37, 2 (2003): 287–326.

[5] Headrick, *Tools of Empire*; see also John Krige, ed., "Choosing Big Technologies", special issue of *History and Technology* 9, 1–4 (1992).

[6] For the significance of the "everyday" in the lives of colonial subjects, see Erica J. Peters, "Negotiating Power through Everyday Practices in French Vietnam, 1880–1924," PhD thesis, University of Chicago, 2000.

[7] On bicycles, see Kees van Dijk, "Pedal Power in Southeast Asia," in Jan van der Putten and Mary Kilcline Cody, eds., *Lost Times and Untold Tales from the Malay World* (Singapore: NUS Press, 2009), 268–82.

[8] See especially Donald MacKenzie and Judy Wajcman, eds., *The Social Shaping of Technology: How the Refrigerator Got Its Hum* (Milton Keynes: Open University Press, 1985); Wiebe E. Bijker, Thomas P. Hughes, and Trevor J. Pinch, eds., *The Social Construction of Technological Systems: New Directions in the Sociology and History of Technology* (Cambridge, Mass.: MIT Press, 1987); Wiebe E. Bijker, *Of Bicycles, Bakelites, and Bulbs: Towards a Theory of Sociotechnical Change* (Cambridge, Mass.: MIT Press, 1995).

elsewhere,[9] the bicycle arrived in colonial South and Southeast Asia as a technological artifact and a global commodity with established form and functions. One might assume that since bicycles were of European provenance, it was Europeans who dictated their social usage in the colonies as well. However, one of the attractions of studying such a deceptively simple, even mundane technology as the bicycle is the scope it provides for a techno-history that addresses local needs and usages, and not just those of Europe transposed to the colonies. By virtue of the breadth of its adoption across lines of race, class, and gender, the bicycle allows us to observe the wide variety of social uses and cultural understandings to which it gave rise. Everyday technology lends itself to comparative, trans-regional analysis that differentiates the local from the global and draws upon both anthropology and history to interrogate a "colonial lexicon" of objects and signs.[10] We can undertake a cultural history of association in which the values and meanings ascribed to everyday things become as much a part of the local processes of modernity formation as does the materiality of the objects themselves.

Among the many everyday technologies that might be considered, we have chosen the bicycle for both its specific significance and its wide illustrative importance. If the bicycle rapidly became icon and instrument of the accessibly modern, it also articulated much that was insecure and contradictory, exploitative, dangerous, and (in Harry Harootunian's sense) disquieting about the move to late-colonial modernity.[11] The bicycle had established itself as a presence on Asian city streets by the interwar period, and by the 1960s was visible in many small towns and villages. Despite an early association with European mobility and authority, it soon became available to a significantly large indigenous population through purchase and loan, by right of work, or by dint of theft. Although in its origin a European import, the bicycle was amenable to local adaptation, to cultural and political appropriation on a grand scale. Yet it remained machine enough and foreign enough to raise questions about indigeneity, about the merits and demerits of progress, and about gender roles, social hierarchies, and the mechanisms of state power. By looking in this article at two very different colonial and postcolonial societies—India and Vietnam[12]—and hence at two distinct sets of rulers and subjects, we seek to illuminate ways in which a commonplace

[9] On the "creative capacity" of users to shape technology in all of its phases, see Nelly Oudshoorn and Trevor Pinch, eds., *How Users Matter: The Co-Construction of Users and Technology* (Cambridge, Mass.: MIT Press, 2003).

[10] Nancy Rose Hunt, *A Colonial Lexicon of Birth Ritual, Medicalization and Mobility in the Congo* (Durham: Duke University Press, 1999). Bicycles figure repeatedly as "signifying objects" in Hunt's account, as emblems of modernity, facilitators in the movement of people and ideas, and bearers of postcolonial technological nostalgia.

[11] Harry Harootunian, *History's Disquiet: Modernity, Cultural Practice, and the Question of Everyday Life* (New York: Columbia University Press, 2000).

[12] "Vietnam" refers here collectively to the three predominately ethnic Vietnamese regions of French Indochina: Tonkin, Cochinchina, and Annam. These areas were administratively distinct,

commodity such as the bicycle can be used to inform a comparative understanding of everyday technology and of the varieties of modernity it helped foster.

MAKING BICYCLES AVAILABLE

One alternative to conceptualizing new technologies in terms of "technology transfers"—from a Euro-American place of origin and manufacture to a colonial site of reception and use—is to ask how a machine such as the bicycle became locally available. Bicycles began to enter India in substantial numbers in the 1890s and by 1913–14 nearly thirty-five thousand were imported annually. The scale of importation fluctuated from year to year due to interruptions to trade caused by two world wars and the depression of the early 1930s. For example, imports fell from 46,706 machines in 1920–21 to a mere 6,315 a year later, and then again from 163,432 in 1928–29 to 49,672 in 1931–32. But overall between 1910 and 1946 approximately 2.5 million bicycles were imported into India, roughly seventy thousand a year. In a dramatic increase, a further 1.2 million entered independent India between 1947–48 and 1951–52, equivalent to more than two hundred thousand each year.[13] The overwhelming majority of India's bicycles came from Britain,[14] and from manufacturers such as Raleigh, BSA, and Rudge-Whitworth. There was some competition in the interwar years from German and other European producers, and especially from Japan, but Japanese imports peaked in the mid-1930s with barely 8 percent of the market.

Bicycles similarly began arriving in Vietnam in the closing years of the nineteenth century, imported predominantly from France, where the bicycle's status as a fashionable commodity had facilitated the rise of the mighty manufacturers who dominated the colonial cycle trade until at least the 1940s.[15] Companies such as Peugeot and Michelin led the market in imports into French Indochina, buoyed by an imperial economy that favored metropolitan firms and penalized foreign competition under the Méline tariff regime.[16]

governed either as a colony (Cochinchina) or as protectorates (Annam and Tonkin), but for brevity's sake we use the term "colony" throughout.

[13] Computed from *Annual Statement of the Sea-Borne Trade and Navigation of British India* (Calcutta: Superintendent of Government Printing, India), for the relevant years. Figures up to 1937 include Burma.

[14] This was not invariably the case with modern technologies: typewriters, for example, came largely from the United States.

[15] Cathérine Bertho-Lavenir, *La roue et le stylo: Comment nous sommes devenus touristes* (Paris: Odile Jacob, 1999); Stephen L. Harp, *Marketing Michelin: Advertising and Cultural Identity in Twentieth-Century France* (Baltimore: Johns Hopkins University Press, 2001).

[16] On the French imperial customs regime, see Pierre Brocheux and Daniel Hémery, *Indochine: La colonisation ambiguë, 1858–1954* (Paris: La Découverte, 2001 [1994]), 134–75; Martin J. Murray, *The Development of Capitalism in Colonial Indochina, 1870–1940* (Berkeley: University of California Press, 1980); André Dumarest, "Fiscalité en Indochine 1920–1953," 1953, Centre

Foreign firms such as Raleigh had a presence, but in the boom years of the mid-1920s British makes accounted for less than 1 percent of imports.[17]

Unlike British India, the number of bicycles imported into French Indochina is difficult to calculate. This is due in part to a lack of official data, but it is exacerbated by customs information on bicycles and bicycle parts having been collected (as with many other goods) by weight rather than unit, and further complicated by illicit trade across the Vietnamese-Chinese border and along the coast. Though this unregulated trade troubled the administration, the informal market in bicycles was of little concern compared with many other goods entering illegally.[18] By the mid-1930s, the French administration was worried by the growing activity of Japanese firms in the Vietnamese market,[19] an indication of how Japan was beginning to undermine the commercial dominance of colonial powers in Southeast Asia. While the extent of the cross-border cycle trade remains shadowy, a much clearer indication of the bicycle's availability in Vietnam is to be found in traffic data. Thus a report compiled for the Saigon Chamber of Commerce in 1926 estimated that there were fifty thousand bicycles on the streets of Saigon-Cholon.[20] Data for Hanoi a year later showed that 344 bicycles a day crossed the Pont Doumer linking the city to its suburbs and hinterland across the Red River, along with nearly 15,000 pedestrians, 141 animal-drawn carts, 1,184 rickshaws, 116 automobiles, and 79 motor-coaches.[21] Such figures suggest that by the late 1920s in Vietnam, as in India, the bicycle had become a significant presence on city streets.

Already assembled, ready-to-ride machines were not the only imports included under the rubric of bicycles. In both India and Vietnam there was also a substantial importation of bicycle parts such as frames, chains, and saddles. In India these, again, came mostly from Britain but also from Germany, Japan, and the Netherlands. Local dealers were accordingly able to assemble bicycles and market them, often more cheaply than foreign makes, under their own name. The bicycle also gave rise to a host of local goods and services, and by the late 1940s, the manufactures of components such as bells, stands, and carriers had become virtual cottage industries at Ludhiana in the Punjab.[22] However, in the absence of an industrial capacity to manufacture high-quality steel

des Archives d'Outre-Mer (hereafter CAOM), Aix-en-Provence, Agence FOM, carton 222, dossier 256.

[17] "Rapport au sujet des bicyclettes importées en Indochine," 9 Aug. 1926, Vietnam National Archives Centre II (hereafter VNA-II), Ho Chi Minh City, Goucoch IB.30/035 (6).

[18] For a typical report on the informal economy, see "La concurrence chinoise menace l'économie indochinoise," *Le Courrier de Haïphong*, 12 Oct. 1934.

[19] "L'Opinion du marché," *Le Courrier de Haïphong*, 7 July 1938.

[20] "Rapport au sujet des bicyclettes," 29 Nov. 1926, VNA-II, Goucoch IB.30/035 (6).

[21] "L'automobile en Indochine," *Les Annales Coloniales*, Nov. 1929.

[22] *Report on the Industrial Survey of the Ludhiana District* (Lahore: Superintendent, Government Printing, Punjab, 1942), 73.

components—for chains, ball bearings, and freewheel mechanisms—the Indian cycle industry made only limited progress before independence, despite an estimated domestic demand of five hundred thousand bicycles a year.[23] The introduction of high import tariffs and a postcolonial policy of promoting import substitution in the late 1940s and early 1950s eventually stifled the thriving trade British companies had hitherto enjoyed. Partly in order to combat this, in 1950 Raleigh of Nottingham entered into partnership with a Bengali entrepreneur, Sudhir Kumar Sen, to build a cycle factory near Asansol in West Bengal to produce one hundred thousand cycles a year—one-fifth of the National Planning Committee's annual target—within three years.[24] Until the 1950s, therefore, bicycles in India remained predominantly imported goods, and even thereafter, despite the rise of such patriotic makes as "Hind Cycles,"[25] it remained common for bicycles to retain some of their original foreign connotations. For many years Sen-Raleigh's best-selling bicycle was called "Robin Hood," a name that said more about Nottingham than any Indian tradition of outlaws and adventurers.

In French Indochina, just as imperial preference favored metropolitan-made machines and parts, colonial policy and prejudice also tended to discriminate against locally made and locally marketed bicycles. The complexities of this colonial market can be seen in a typical call for tenders by the Résidence Supérieur d'Annam in 1931. Seeking a hundred bicycles for use by rural functionaries, the commission tasked with awarding the contract received nine tenders, many of them offering a combination of local (Alcyon, Terrot) and European (Peugeot, Hirondelle, and Cyrus) makes. The commission awarded the contract to a Saigon firm, Garage Boillot, for a hundred Peugeot (French) and Cyrus (Dutch-made) bicycles, and rejected offers by three Vietnamese-owned businesses that were asking substantially lower prices for locally made machines. In response to a complaint by the manager of Société Berset, one of the other French firms to bid, Governor-General Pierre Pasquier defended the decision to spend more on European bicycles, seconding the opinion of the Résident Supérieur d'Annam that locally made machines were not sturdy enough for rough provincial roads and rice-paddy dykes. Supporting a struggling local company such as Berset, recently forced

[23] Ministry of Commerce, Government of India, *Report of the Indian Tariff Board on the Continuation of Protection to the Bicycle Industry* (Delhi: Manager of Publications, 1949), 8. About forty-four thousand bicycles were being made in India by 1945: *Report of the Indian Tariff Board on the Bicycles Industry* (Bombay: Government Central Press, 1946), 4.

[24] "Sen-Raleigh Industries of India Limited: New 30-Acre Factory at Asansol," c. 1950, Raleigh Archives, Country Records Office, Nottingham, DD/RN/11/1/15. Tube Investments of Birmingham established a rival factory near Madras in 1951, making one hundred thousand bicycles a year under the name "Hercules-India."

[25] Advertisements for "Hind Cycles," stressing their Indian manufacture, appeared in the government magazine *The March of India*, in 1954–1955, with claims that a third of the 2.1 million bicycles in use in India by that date were made by this Bombay firm.

to make fifty-five of its ninety indigenous workers redundant, was less important than buying reliable machines. European manufacture carried the connotation of being well made.[26] Yet, despite this, local firms in Vietnam continued to make and sell bicycles for the colonial market. Their survival during the depression in the early 1930s provides evidence for the strong demand for bicycles, whether of foreign or local manufacture.

In one sense, then, bicycles became available, and increasingly commonplace, by virtue of the large numbers imported into India and Vietnam and those assembled or manufactured locally. But the means by which they were acquired varied widely. In India, especially before 1914, Europeans leaving the country or moving to another station offered men's and women's bicycles for sale, often at substantially reduced prices, along with other household goods, in the small-ads columns of the English-language press. There was no suggestion that Indians were ineligible to buy bicycles previously owned by Europeans.[27] From the outset, bicycles were widely advertised in India and Vietnam in both the indigenous and European presses. Advertisements sometimes reproduced metropolitan images and text, despite their incongruity, but by reproducing the stylized profile of a bicycle, usually a man's, helped to establish in the public mind the idea of the bicycle and bicycle riding.[28] But increasingly advertising situated the bicycle in an Asian setting and targeted Asian users. Some advertisers went to considerable lengths to stress local suitability and accessibility, for instance by describing their wares as specifically "made for Vietnamese."[29] These advertisements appeared in the French- and Vietnamese-language presses alongside goods such as typewriters, radios, and rice-mills, and marketed as similarly suited to local use. Radio parts were specially coated to protect them from tropical humidity, typewriters had *quốc ngữ*

[26] Letter, Manager of the Maison Berset in Hanoi to the office of the Governor-General of Indochina, 16 May 1931, CAOM, Fonds du Gouvernement Général de l'Indochine, dossier 41353. A similar prejudice existed in India against both Japanese- and Indian-made machines. Harold Bowden, in "The Past Sixty Years" (undated typescript, Raleigh Archives, DDRN 7/2/12), dismissed Japanese bicycles in the 1920s and 1930s as "merely a cheap imitation of British designs." For prejudice against Indian-made bicycles, see *Report of the Indian Tariff Board* (1946), 5.

[27] An advertisement in the Allahabad *Pioneer* of 15 March 1905 (p. 6) offered a men's and a women's bicycle for sale without restriction, but added with respect to a pony and trap, "No native need apply."

[28] On the advertising of bicycles in the Indian press, see Ranabir Ray Choudhury, *Early Calcutta Advertisements, 1875–1925* (Bombay: Nachiketa Publications, 1992). For the incorporation of the motif of the bicycle, along with sewing machines, cars, and airplanes, into domestic decoration, see Ilay Cooper, *The Painted Towns of Shekhawati* (Ahmedabad: Mapin Publishing, 1994).

[29] "Xe đạp dành cho người Annam," *Tiếng Dân*, 12 Apr. 1932. On the increasingly complex, cross-cultural advertising strategies employed by Western firms in the colonies by the 1930s, see Timothy Burke, *Lifebuoy Men, Lux Women: Commodification, Consumption, and Cleanliness in Modern Zimbabwe* (Durham: Duke University Press, 1996); Kajri Jain, "New Visual Technologies in the Bazaar: Reterritorialisation of the Sacred in Popular Print Culture," *Sarai Reader 03: Shaping Technologies* (Delhi: Sarai Programme, 2003), 44–57.

keyboards, and rice-mills came in sizes designed to suit even modest households.[30] It would, however, be a mistake to read these advertisements as evidence of a readily disposable income among Vietnamese. Most of the goods advertised were beyond the means (and needs) of most households, and only the very well-to-do could consider purchasing a typewriter or rice-mill for home use. But advertisements, and the many sponsored "advertorials" offering advice and stories about technology and science that appeared in periodicals such as *Phụ Nữ Tân Văn* (Women's news), invitingly and instructively portrayed a burgeoning world of goods, not ones that were necessarily available for everyone to own in a material sense, but which became available for use as symbolic objects or the focus of consumerist desires.[31]

In Vietnam, bicycles were commonly sold through department stores, often the outlets for the European import-export houses that dominated the import trade—Maison Boy Landry and the Grands Magasins Charner in Saigon, Morin Frères in Huế and Đà Nẵng (Tourane). These stores sold bicycles, in addition to cars, motorcycles, typewriters, and other imported goods. In India the dominance of European firms, though evident enough in the 1890s,[32] was less secure and by 1918 Indian firms such as Sen and Pandit were successfully challenging European importers and distributors like Oakes & Co. in Calcutta.[33] The price of bicycles fell substantially from the 1890s to the 1920s, and declined still further with the importation of Japanese machines, increasing the bicycle's affordability to even the poorer sections of the white and indigenous population. Evolving marketing techniques facilitated private sales through widely advertised hire-purchase and loan agreements,[34] while the proliferation of bicycle shops, common by the 1950s even in small towns and villages in India, made it possible to hire bicycles on a daily or even hourly basis.[35]

By the late 1920s a number of Vietnamese and Indian cycle-dealers had emerged to meet expanding local demand. Calcutta alone had twenty-nine

[30] See any edition of *Phụ Nữ Tân Van* or *Thần Chung* for 1929; and advertisements in the pamphlet Vu Thi-Le Dung, *Đánh máy chữ* [Using typewriters] (Hanoi: Thuy Ky, 1938).

[31] See "Khoa học thường thức: xe đạp" [Science basics: bicycles], *Phụ Nữ Tân Văn*, 26 Dec. 1926. This series ran for several years and featured many different technologies.

[32] See the advertisements for bicycles by the British-owned stores Addisons and Spencers in *Madras Mail*, 2 Jan. 1896: 12.

[33] On the outcome of a legal dispute concerning the sale of cheap imported bicycles between Sen and Pandit and Oakes & Co., see *Calcutta Weekly Notes* 24 (1919): 155–72.

[34] In 1896, a Singer "A" bicycle, costing the princely sum of Rs 260 in cash, could be purchased for seven monthly payments of Rs 39-8-0: *Madras Mail*, 2 Jan. 1896: 33. In the nineteenth century, the Indian rupee was worth 2 shillings (a tenth of a pound sterling); by the mid-1920s its value had fallen to about 1 shilling and 6 pence.

[35] Like setting up a rice-mill, opening a bicycle shop became an important manifestation of local entrepreneurship in small-town and village India by the 1960s, including among castes and communities not traditionally engaged in trade: Hemlata C. Dandekar, *Men to Bombay, Women at Home: Urban Influence on Sugao Village, Deccan, Maharashtra, India, 1942–1982* (Ann Arbor: Michigan Papers on South and Southeast Asia, 1986), 42, 192, 197.

cycle-dealers and repairers by that time, many located on Bentinck Street. Its position midway between European Chowringhee and the northern, predominantly Bengali half of the city indicates the socially diverse market that now existed for bicycles and other imported goods.[36] Unlike the secluded European department stores, Indian traders publicly displayed their wares in open-fronted shops or lined up on the pavement, clearly visible to passers-by.[37] Hanoi in 1932 boasted eighteen cycle merchants in the Old Quarter alone, their merchandise similarly displayed on the pavement for inspection and sale.[38] Cycle shops also functioned as sites for disseminating the technical expertise needed to repair and maintain bicycles. Very few Vietnamese were formally apprenticed as mechanics or technicians, and the few who were trained in the small number of technical colleges often left their studies, broke the terms of their grants, and disappeared, untraceable by school staff or state officials, to work as mechanics or set up their own cycle shops in Hanoi and Saigon.[39] A similar movement of expertise flowed from the larger European firms where Vietnamese worked as apprentices before leaving to create their own businesses, making bicycle know-how almost as widely available as the machine itself.

In the widening circle of availability, employers supplied bicycles to their workers. Governments at all levels in India began, even before 1914, to provide bicycles for many of their subordinate staff, from telegram delivery boys and postmen to the "cycle peons" attached to vaccination squads and anti-malaria "mosquito brigades."[40] By the mid-1920s, with the construction of the new imperial capital of New Delhi with its vast open spaces and limited public transport facilities, small loans of up to Rs 250 were given to clerks and other office workers to enable them to purchase a bicycle and ride to work.[41] Vietnam's

[36] *Asylum Press Almanack and Directory of Madras and Southern India, 1928* (Madras: Chakravarthi, 1928), A-11. Madras had forty cycle importers, dealers, and repairers (ibid., 965), while Delhi by 1935 had sixteen, either near Chandni Chowk in the old city or around Connaught Place: *Delhi Directory, 1935* (n.p.), 62.

[37] The Raleigh Archives contain a photograph, perhaps from the 1940s, of cycle-dealers displaying adult and children's bicycles on a street in Gwalior in central India: *Turning Back the Pages of Raleigh Cycles of Nottingham* (Nottingham: Nottinghamshire County Council, 2008), 25.

[38] *Annuaire de Hanoï, 1932* (n.d.). For an early (and sardonic) comment by a French *colon* on the multiple Vietnamese uses of the pavement, see "Cyclistes nocturnes," *Avenir du Tonkin*, 24 July 1908.

[39] Two such schools in Saigon, the Ecole pratique d'industrie and the Ecole des mécaniciens asiatiques, had great difficulty retaining students for the full term of their studies. After a short time there, Vietnamese pupils absconded to begin their own careers, considering themselves sufficiently educated to become mechanics. Reports also complained of truancy problems among students at the Ecole de Haïphong: one such report is "Ecole des mécaniciens asiatiques, examens de passage et de sortie," 30 June 1923, VNA-II, VI.A/8/316.

[40] *Report on the Municipal Administration of Calcutta, 1906–07*, pt. III, 17; *Administrative Report of the Corporation of Madras, 1914–15*, app. V, 202.

[41] Government of India, Home (Public), F 115, 1925, National Archives of India, New Delhi. In the 1940s the Posts and Telegraphs Department was the largest government purchaser of bicycles: *Report of the Indian Tariff Board* (1949), 3.

colonial administration similarly supplied its local agents with bicycles or the means to obtain and maintain them. In the late 1940s, the Saigon government paid an allowance to 507 employees for the purchase and maintenance of bicycles.[42]

Theft was a further dimension to the bicycle's increasingly wide circulation. Just as bicycles entered the informal economy by being smuggled into colonial Vietnam, so too, as in India, bicycles were stolen (or obtained fraudulently from dealers and pawnshops) in what appear to have been substantial numbers. As early as 1918, an "epidemic" of bicycle thefts was reported from the northern city of Kanpur.[43] By the mid-1930s a spate of cycle thefts was sweeping across India. In the Punjab, where the number of recorded thefts rose from 757 in 1935 to 897 in 1936, a senior police officer observed, "Almost anyone can ride a bicycle and aspires to possess one," adding that bicycles "are easy to steal and disguise and the stolen machine provides the thief with a rapid means of leaving the scene of the offence."[44] In Madras city in the mid-1930s, cycle thefts averaged around 230 a year, rising by 1938 to 440, and despite the pursuit of criminal gangs and the formation of special police detection squads, very few stolen machines were recovered.[45] In Bombay, the number of thefts rose from just over a thousand in 1939 to 1,277 in 1940, and climbed still higher during World War II and its aftermath as economic conditions deteriorated.[46] Reports of gangs of bicycle thieves operating in Saigon and other Vietnamese cities led, as in India, to sporadic police crackdowns. A raid on a warehouse in Cholon in 1921 resulted in the seizure of dozens of bicycles from a gang operating from the house of an employee of the TSF (Télegraphie Sans Fils) eager to supplement his meager income.[47] But, as in India, relatively few machines were recovered; most simply disappeared into the anonymity of backstreets, suburbs, and villages.

Workshops and warehouses re-crafting and selling stolen bicycles were part of the same process of technological innovation and dissemination as were the pavement shops where bicycles were publicly exhibited and put on sale. Bicycles were not only sold, and stolen, on the street: they were also, with equal visibility and inventiveness, repaired there. The now-familiar figure of the pavement repairman in India or Vietnam, pumping up tires, making running repairs to chains, brakes, and twisted forks, was early on

[42] "Etat de proposition d'attribution de l'indemnité de bicyclette," 7 Mar. 1950, VNA-II, VB.55/166.
[43] *Report of the Police Administration in the United Provinces, 1918*, 22.
[44] *Report of the Police Administration in the Punjab*, *1936*, 9.
[45] *Report on the Administration of the Police of the Madras Presidency, 1937*, 55; *1938*, 58. On cycle thefts and detection, see idem., *1933*, 51; *1939*, 54; *1948*, 35.
[46] *Annual Report on the Police of the City of Bombay, 1940*, 5.
[47] "Les voleurs de bicyclettes," *L'Echo Annamite*, 9 July 1921.

established among the street-level practitioners of everyday technology.[48] Indians and Vietnamese quickly realized the bicycle's potential not only as a commercial commodity but as a utilitarian tool, a means of getting to work or of conveying goods to market or hawking them on city streets. The bicycle's singular versatility and its adaptability to local transport and small-scale commercial needs was demonstrated by physical adaptations of it: into a two-person vehicle with a passenger-bearing carrier over the rear wheel, into three- or four-wheel carts for transporting or vending goods or, by the 1940s, into the increasingly ubiquitous cycle-rickshaw.[49]

BICYCLE RACES

How did the bicycle fit into, or help transform, the social hierarchies of late-colonial and early postcolonial India and Vietnam? It was, unsurprisingly, among Europeans that bicycles early on became established as a convenient means of transport and a popular mode of recreation. Initially, the bicycle gave them a new sense of physical freedom and created novel opportunities for sociability through cycling clubs and informal tours. In India, it enabled men, women, and children to roam relatively freely around hill stations, cantonments, and civil lines, and to enjoy the exhilaration of freewheeling for miles downhill.[50] In this therapeutic and recreational role, the bicycle might supplement rather than replace equine transport, but since it was considerably cheaper to buy and maintain, it became available to Europeans who could not afford a horse.

Before 1914, bicycles were also used for work purposes by high-ranking Europeans like district judges and police superintendents.[51] However, this phase of the bicycle as a high-status European commodity passed fairly rapidly, perhaps by 1910 and certainly by 1920. Europeans on bicycles, cycling in the heat and humidity of an Indian day, would arrive at their destination sweaty and disheveled, their racial authority compromised by their evident physical exertion. A horse, or still better a motor car (once these became affordable), was a more dignified proposition and preserved a greater social distance between colonizer and colonized.

[48] Not all were necessarily Indian. See J. Chartres Molony, *A Book of South India* (London: Methuen, 1926), 28–29, for a Dalmatian Slav, originally a diver on the city harbor works, who became a bicycle repairer and seller.

[49] In the 1920s a Calcutta firm offered for sale a locally made "patent water cycle." The only practical use for this machine appears to have been duck-shooting: *Bombay Chronicle*, 24 Dec. 1926: 11.

[50] Leonard Woolf relates how, around 1910, as a colonial official in Ceylon, he visited a hill station on the island: a servant carried his bicycle up to a mountain peak, and Woolf freewheeled downhill for miles before being met in the plains below by another servant with his horse: L. Woolf, *An Autobiography, Volume 1, 1880–1911* (Oxford: Oxford University Press, 1980), 233.

[51] Edmund Cox, *My Thirty Years in India* (London: Mills and Boon, 1909), 238.

As a measure of their own growing racial unease, Europeans began to feel vulnerable on bicycles. They might be jostled or abused as they wove their way through a busy bazaar, or forced unceremoniously to pay tolls on entering a town. When Gilbert Slater arrived in 1915 to take up a chair in economics at Madras University, it was considered exceptional and not altogether agreeable for a European of his status to cycle around the city or ride off into the countryside. He soon switched to a motorcycle.[52] By the 1910s and 1920s, riding a bicycle was more likely to be something a European police sergeant or a missionary might do: white users became, in effect, "bicycle citizens," their lowly means of transport identifying them as outside, or at best marginal to, the European elite.[53] But the relationship between Europeans and bicycles was not without ambiguity, and during World War II, when cars were scarce and petrol rationed, some whites, especially white women, took to riding old and battered bicycles.[54] In Paul Scott's end-of-the-Raj novel, *The Jewel in the Crown*, the missionary Edwina Crane cycles around Mayapore on a "ramshackle-looking but sturdy Raleigh," but she remains, in the eyes of her Indian assistant, "a Mem[sahib] in spite of the bicycle." The volunteer nurse Daphne Manners also rides a bicycle, but so does her Indian friend Hari Kumar, and the bicycle, as a symbol of racial and sexual transgression, becomes central to the investigation of the incident in which Manners is raped.[55]

In Vietnam, too, the period of predominantly European use of the bicycle passed fairly rapidly and cycling clubs soon became an important means of display for Vietnamese. At first French-run cycling clubs were open to none but the most elite Vietnamese *afficionados*, but this did not preclude Vietnamese from founding their own societies. These sporting organizations proved popular among young, middle-class men, such as employees in the colonial administration or private enterprises, and since Vietnamese elites rarely took to the bicycle, preferring the speedier, more ostentatious motorcar, it was mostly among such men that the bicycle became an icon and instrument of modernity. Technology in this mechanical sense became part of a more Foucauldian technology of the self, an aspect of the care and cultivation of the modern individual. Many young sporting men, both Vietnamese and French,

[52] Gilbert Slater, *Southern India: Its Political and Economic Problems* (London: Allen and Unwin, 1936), 40, 50, 54, 93.

[53] Robin M. Le Blanc, *Bicycle Citizens: The Political World of the Japanese Housewife* (Berkeley: University of California Press, 1999). In Edward Thompson's novel *An Indian Day* (London: Alfred A. Knopf, 1927), only a missionary, John Findlay, rides a bicycle in the countryside; the Indian Civil Service officer, Vincent Hamar, cycles from home to the magistrate's court, making longer journeys by car (ibid., 79–80, 165–67, 237).

[54] Patricia Owens, ed., *An American Memsahib in India: The Letters and Diaries of Irene Mott Bose, 1920–1951* (Putney, London: British Association for Cemeteries in South Asia, 2006), 177, 179.

[55] Paul Scott, *The Jewel in the Crown* (London: Granada, 1973 [1966]), 34, 41, 152–53, 447–48.

sought to transform themselves and their bodies through use of the bicycle. The challenge was to find the time, given the limited hours in the day for the busy functionary, to move from being a simple "tourist" (the word then signifying an "amateur") to being a genuine competitor on a par with those of France.[56] In squaring up to this challenge, cycling union members devoted themselves to transforming their habits of diet, sleep, work-routines, and even love-lives in order to become "as modern as the racers of the motherland [France]."[57] For many Vietnamese enthusiasts cycling was an accessible means of elevating oneself to apparently equal status with the French.[58]

In India, too, the bicycle became part of an Indian middle-class quest for a healthier image and a more self-reliant lifestyle.[59] In Calcutta, where, as in Bombay, Indians were involved in cycling clubs as early as the 1890s, young, middle-class men, particularly students from high-status families, took to the bicycle, went on tours into the surrounding countryside, and competed in races. Sudhir Kumar Sen, who later became Calcutta's leading cycle-dealer and Raleigh's Indian manufacturing partner, first acquired an interest in bicycles as a student at Presidency College, Calcutta, where he won an intra-collegial competition in 1905.[60] In Bengal, the bicycle acquired the added kudos of being health-promoting, not just for the individual, but also for the race. Even though the machines themselves remained foreign, or assembled from foreign parts, popularizing their use became a matter of patriotic importance, a means of countering, on however modest a scale, European representations of Bengali babus as "effeminate," "effete," and physically inept.[61] Winning a cycle race might not transform Bengalis into a "martial race" overnight, but it helped promote a self-image of energy and independence. In addition to bicycle races, which had become major sporting events in India by the 1910s, in the interwar period Indians, in small groups or as individuals,

[56] "L'entrainement du touriste à bicyclette," *L'Avenir du Tonkin*, 14 July 1907.

[57] "Les statuts de notre organization," *Bulletin de l'Union indigène du cyclisme* (Hanoi, 1912): n.p. [This was the first issue of a journal that, as was common, never saw a second issue.]

[58] Cycling was by no means the only sport conceived as a means of individual and national renovation and awakening. See Agathe Larcher-Goscha, "Sports, colonialisme et identité nationales: Premières approches du "corps à corps colonial" en Indochine (1918–1945)," in Nicolas Bancel, Daniel Denis, and Youssef Fates, eds., *De l'Indochine à l'Algérie: La jeunesse en mouvement des deux côtés du miroir colonial, 1940–1962* (Paris: La Découverte, 2003), 15–31; Eric T. Jennings, *Vichy in the Tropics: Pétain's National Revolution in Madagascar, Guadeloupe, and Indochina, 1940–1944* (Stanford: Stanford University Press, 2001), 130–61; David G. Marr, *Vietnamese Tradition on Trial, 1920–1945* (Berkeley: University of California Press, 1981), 79–82.

[59] For many middle-class Indians the bicycle was simply a cheap and convenient means of getting to and from work. See, for example, Monica Felton, *A Child Widow's Story* (New Delhi: Katha, 2003 [1966]), 53.

[60] Mani Bagchi, *Sudhir Kumar Sen: Jiban-charit* (Calcutta: Academy Printing Works, 1964), 19–20. We thank Indira Chowdhury for translating this Bengali biography.

[61] On this image and attempts to counter it, see John Rosselli, "The Self-Image of Effeteness: Physical Education and Nationalism in Nineteenth-Century Bengal," *Past & Present* 86 (1980): 121–48.

embarked on bicycle tours across India and beyond. Thus a young Parsi, Scouter F. J. Davar, set off to "encircle the world" on a solo journey that lasted seven years: he covered sixty-five thousand miles, crossing the Sahara, penetrating West African jungles, and traversing the Andes.[62] That several of the leading cycle "tourists" and racers were Bombay Parsis highlights not only the status of the Parsis as a highly "westernized" community, but also the growing concern within the community that their reproductive powers were declining and that they might face collective extinction unless their physical vigor was maintained, as through active sports.[63]

In India the healthy image, as well as the utilitarian practicality of the bicycle flourished despite the strictures of Gandhi and other nationalists like the Bengali Prafulla Chandra Ray who railed against the foreign "luxuries" that were flooding into India and penetrating even remote upcountry districts. In this sense, bicycles in India became embroiled in a generic resistance to all modern machines and to the social evils associated with techno-modernity.[64] Although the intensity of this anti-modernist critique was rarely matched elsewhere in South and Southeast Asia, some Vietnamese, too, raised their voices in criticism of the bicycle, along with other foreign imports seen to be changing the pace of life and causing Vietnamese to lose a sense of themselves and their country. For tradition-minded or neo-traditionalist writers, such as an anonymous author in *Tiếng Dân* (Voice of the people) or Phạm Quỳnh in *Nam Phong* (Southern wind), any means of locomotion faster than foot-travel made the traveler "unable to see the wood for the trees."[65] But in Indochina such voices were in the minority: few individuals questioned the utility of the bicycle and the need to take advantage of it.

For many observers, the zeal with which Vietnamese men plunged into cycle racing evinced the arrival of a new man, perhaps not yet master of French rivals beyond the racetrack but capable of the discipline, technique, and stamina to compete and win in the wider world. One such race was the "Tour Col des Nuages" or "Cuộc đua xe đạp Tourane Huế," held each year from 1935 as part of the "Huế Olympics," a sports festival coinciding with the Huế fair and the Nam Giao ceremony. The winner of the race, whose course ran along the 110-kilometre stretch of Route Coloniale 1 between Đà

[62] H. D. Darukhanawala, *Parsis and Sports and Kindred Subjects* (Bombay: H. D. Darukhanawala, 1935), 372–73. For Parsi cyclists in New York, see *Bombay Chronicle*, 2 June 1938: 4.

[63] Eckehard Kulke, *The Parsees in India: A Minority as Agent of Social Change* (Delhi: Vikas, 1974), 110.

[64] "Discussion with G. Ramachandra," 21–22 Oct. 1924, *Collected Works of Mahatma Gandhi*, vol. 25 (New Delhi: Government of India, Publications Division, 1967), 247–55; Prafulla Chandra Ray, *Life and Experiences of a Bengali Chemist*, vol. 1 (Calcutta: Chuckervertty, Chatterjee & Co, 1932), 404–48.

[65] Phạm Quỳnh, "Mười ngày ở Huế [Ten days in Huế]," *Nam Phong* 10 (1918): 198–222, quote 204; "Du lịch là gì? [What is tourism?]," *Tiếng Dân*, 24 Aug. 1927. Quỳnh's rebuke was, characteristically, delivered in the course of a travelogue recounting a car journey from Hanoi to Huế.

Nẵng and Huế, was Vietnamese seven out of nine times. In most years the field was at least fifty-strong, comprising an equal mix of Vietnamese and Europeans. By the time of the 1938 event, the supremacy of Vietnamese athletes was taken for granted—owing to the "natural suitability" of Vietnamese to the climate according to the French-language *France-Annam* in Huế, and to "our determination as a people" according to the Vietnamese *Tràng An Báo*.[66] In Vietnamese reports the regional origins of the competitors were at least as important as their national origins, and the *Tràng An Báo* bemoaned the "poor development" of sport in central Vietnam.[67] Whether by reflecting, challenging, or reinforcing established ideas, the new activities the bicycle enabled were important in creating an arena for representing race and debating region.

BICYCLES AND THE SOCIAL HIERARCHY

Beyond racial attitudes, how, if at all, did bicycles change Indian and Vietnamese society, or reinforce existing social differences? Many different answers might be offered. One dynamic of change, in theory, was displacement; new machines usurped existing technical skills and technological processes (as with the displacement by the 1930s of hand-husked rice by mechanical milling over a large part of South and Southeast Asia). Once there were electric fans the demand dwindled for hand-pulled *punkahs*. In the age of the typewriter and the modern office there was little need for the traditional scribe. On city streets in early-twentieth-century India palanquins and horse-drawn conveyances steadily gave way to trams and buses, but also to seemingly anachronistic rickshaws. As David Edgerton reminds us, old and new technologies often coexisted, side-by-side.[68] The coming of the sewing machine did not drive away the *darzis*, the Indian tribe of tailors, nor did hand sewing suddenly cease in homes, shops, and reformatories. Oxcarts continued to be a presence on the streets of Vietnam, just as the limited burden of merchandise a bicycle could carry did not obviate the need for shoulder-poles and baskets. Despite repeated press campaigns and several attempts to eradicate the use of man-drawn *cyclos* (characterized as "human horses"), cycle-rickshaws continued to share custom and street space with older modes of transport.[69] It is difficult to determine what exactly the bicycle did

[66] "Les jeux olympiques de Hué," *France-Annam*, 4 Mar. 1938; "Tuần lễ thể thao ở Huế [Huế's week-long sports festival]," *Tràng An Báo*, 4 Mar. 1938.

[67] "Vì sao Trung-kỳ ta không có ngôi sao thể thao? [Why does our Central Province not have sports stars?]," *Tràng An Báo*, 18 Mar. 1936.

[68] David Edgerton, *The Shock of the Old: Technology and Global History since 1900* (London: Profile Books, 2006).

[69] E.g., Vân Thế Hội, "Parlons un peu du coolie-xe," *L'Echo Annamite*, 10 July 1920; "Vấn đề xe kéo [The rickshaw problem]," *Tràng An Báo*, 20 June 1937. The most extensive attempt to eliminate hand-pulled rickshaws was that of the "Commission de suppression des pousse-pousse en Cochinchine": see Report, 19 Sept. 1937, VNA-II, Goucoch, VI.A/8/186.

displace—perhaps only the plodding donkey and the humble pony as a means of transporting small loads along city streets and village lanes. Perhaps the bicycle served more to supplement than to supplant, making it easier for the potter to transport his wares, for the peasant to carry milk or coconuts to market, or for the village trader to restock his store.[70]

The bicycle was one of many new technologies (along with buses, trucks, and mechanized rice-milling) that fostered the rise of local entrepreneurship in late-colonial India and Vietnam. Literary sources provide one key to this otherwise often inconspicuous process. In one of Mulk Raj Anand's short stories, a village barber, tired of being at the high castes' beck and call and poorly remunerated for his labor, buys a secondhand Japanese bicycle for Rs 5. This allows him to travel to a nearby town in search of better-paid work. In time he is able to sever all links with the village and set up his own barbershop.[71] The bicycle might, in a modest way, have contributed to the erosion of caste norms and the creation of new socio-economic opportunities. For many bicycle users, a machine's origin was less important than its price. If expensive Raleighs continued to be thought of as "babu" cycles, cheaper Hercules machines became known by the 1930s as "*majdoor*" or worker's bicycles.[72] Bicycles were one of the few modern goods low-caste villagers, such as washermen, began to acquire for their work, though even in the 1960s it was still relatively rare for ex-untouchables to own even a secondhand machine.[73] Although there was little evidence of outright resistance to bicycles as such, there could be localized opposition by social groups disquieted by their use by others. Evidence from India suggests that the bicycle's symbolic worth and status-value was such that its acquisition or use by low-caste villagers could arouse intense opposition from higher castes, resulting in fines or physical chastisement. Kathleen Gough, recalling village life in Thanjavur in the 1950s, described how a man from a low-ranking weaver caste, a "rebel who rode a bicycle," collided with a high-caste boy and was forced to pay a fine of Rs 100 for his injuries.[74]

[70] On the growing use of cycles and cycle-rickshaws in village and small-town India by the 1970s, see William H. Wiser and Charlotte Viall Wiser, *Behind Mud Walls, 1930–1960* (Berkeley: University of California Press, 1971), 244–45.

[71] "The Barber's Trade Union," in Mulk Raj Anand, *Selected Short Stories* (New Delhi: Penguin, 2006), 7–16.

[72] Bagchi, *Sudhir Kumar Sen*, 89.

[73] Siddharth Dube, *In the Land of Poverty: Memoirs of an Indian Family, 1947–97* (London: Zed Books, 1998), 13–14; James M. Freeman, *Scarcity and Opportunity in an Indian Village* (Menlo Park, Calif.: Cummings Publishing Co, 1977), 99–100. Karen B. Leonard, in her 1962 fieldwork at a village twenty miles from Delhi, noted an "untouchable" villager who cycled daily to the capital to work as a sweeper (personal communication with David Arnold, 13 May 2010).

[74] Kathleen Gough, *Rural Society in Southeast India* (Cambridge: Cambridge University Press, 1981), 391. There are parallels here to the way in which horse riding was once considered a privilege confined to Indian elites, and hence its adoption by subaltern groups a mark of defiance:

That the bicycle could be an amplifier, however modest, not only of processes of social change but also resistance to it, is apparent from the gendered life of the bicycle. In the West, the bicycle has commonly been regarded as a significant factor in changes to women's dress, and female emancipation generally.[75] In India, by contrast, while an increasing number of schoolgirls and female college students took to bicycles, and thereby gained access to new educational opportunities, other women, especially in the villages, resented being denied such opportunities and saw the prohibition of cycle riding as one of many irksome controls men exercised over married women's physical and social mobility. Even in urban Maharashtra, Hemlata Damdekar reported of the 1970s, "a woman riding a bicycle" was "a rare sight," while in the villages cycling was one of several activities "not considered appropriate … for women."[76] Gender, like caste, seemed in India to restrict, even where it did not actively prohibit, the modernizing propensities of the cycling machine. That bicycles also became dowry presents added to the sense that their function was, not to make a woman's life easier or more enjoyable, but rather to aid and embody the commercial transactions that men enacted around marriage.[77] Women were a "relevant social group" in Wiebe Bijker's terms, but more often by their exclusion from cycle use than by their ability to take up the new technology.[78] In Vietnam, an image now commonplace (even deemed "traditional") is that of a Vietnamese schoolgirl or peasant woman, often wearing "traditional dress," cycling slowly but elegantly along the side of the road. But until late in the colonial period women and bicycles were deemed a potent combination. Apart from fears about sexual integrity,[79] there was concern about the added mobility bicycles gave to women and the deleterious effects that might result from increased contact with the wider world. Numerous cartoons and widely circulated woodcuts betrayed these fears. A woman with a bicycle denoted a "modern girl," liberated, less controllable, and potentially licentious.[80]

Ranajit Guha, *Elementary Aspects of Peasant Insurgency in Colonial India* (Delhi: Oxford University Press, 1983), 67–68.

[75] E.g., Bijker, *Of Bicycles*, 40.

[76] Dandekar, *Men to Bombay*, 42.

[77] Ronald P. Rohner and Manjusri Chaki-Sircar, *Women and Children in a Bengali Village* (Hanover: University Press of New England, 1988), 47.

[78] Bijker, *Of Bicycles*, 45.

[79] In India, it was believed dangerous for young women to ride bicycles for fear they would lose their virginity by rupturing their hymens: Gough, *Rural Society*, 170.

[80] "Em gái hiện đại tập xe đạp [A modern young girl learns to cycle]," *Tràng An Báo*, 30 Apr. 1935; "Con gái tập xe đạp ở Nghệ An [Girls learning to cycle in Nghệ An]," *Tiếng Dân*, 30 May 1928. See David del Testa's analysis of woodcuts in "Automobiles and Anomie in French Colonial Indochina," in Kathryn Robson and Jennifer Yee, eds., *France and "Indochina": Cultural Representations* (Lanham, Md.: Lexington Books, 2005), 63–77. On the bicycle as an element in the global iconography of the "modern girl," see Alys Eve Weinbaum et al., eds., *The Modern Girl*

Despite this, the increasing availability of the bicycle, the demands of domestic and professional duties, and perhaps the model of European women, led inexorably to Vietnamese women using bicycles: in Saigon and Hanoi women cyclists were a common sight by the 1930s, far more so than in Indian cities. However, in smaller cities and towns such as Đà Nẵng, a woman on a bicycle remained a sensation until much later. Indeed, an important part of the mythology surrounding Huỳnh Thị Bảo Hòa, arguably the first published female novelist in Vietnam, is that she dared to ride a bicycle in that city in the late 1920s. Journalist, traveler, and educational reformer, her reputation as a "modern woman" was by that time already sealed, but cycling confirmed her daring. That this connection with modern technology is noted in almost every account of her shows how powerfully bicycle use epitomized the incipient transformation of women's roles and social image.[81]

Women were not the only beneficiaries, or losers, in the bicycle revolution. The bicycle transformed everyday life, making it possible for low- and mid-level clerks and functionaries to work in the private and public offices in central Saigon and Hanoi and still live further out, thereby encouraging the development of suburbs and the integration of the rural hinterland into the economic activity and social patterns of the city. Evidence of this can be seen as early as 1912 in the discussion of several members of a city commission debating a proposed new tax regime for all vehicles in Saigon. Needing to cover a budget shortfall from the cancellation of a tax on rickshaws, the commission had, in the previous year, suggested that a tax of $1.50 be levied on all bicycles registered in Saigon. Commission President Monsieur Garnier pointed out the unfeasibility of the tax. While the rate might not be onerous, it was no paltry sum for "the petty employees, people of little fortune, whose bicycles, not in themselves signs of luxury or wealth, … allow them to save money and to work in the city center while living in the quiet countryside. For some it constitutes a veritable work tool." Garnier further argued that collecting the proposed tax would barely be possible—it would be levied only on bicycles registered in Saigon, not those belonging to residents of the suburbs, Cholon, or the countryside beyond. The cost of administering the law, he concluded, would exceed the revenue, the rest of the commission agreed, and it was scrapped.[82] The growth of the city and its economic vitality, whose demand

around the World: Consumption, Modernity and Globalization (Durham: Duke University Press, 2008), 1–24, 147–73, 194–219.

[81] Bảo Hòa wrote candidly about women in Vietnamese society: "Vấn đề phụ nữ ở nước ta [The woman question in our country]," *Tiếng Dân*, 26 Oct. 1928. For recent work on her, see Trương Duy Hy, ed., *Nữ sĩ Huỳnh Thị Bảo Hòa: Người phụ nữ viết tiểu thuyết đầu tiên* [Female artist Huỳnh Thị Bảo Hòa: the first female novelist] (Đà Nẵng: Nhà Xuất Bản Văn Học, 2002).

[82] See Garnier's public statements in Procès-verbal, 11 Feb. 1920, VNA-II, Goucoch VI.A/8/291.

for labor was partly fed by the use of bicycles, necessitated a search for other sources of revenue. While the bicycle did not in itself precipitate the expansion of Saigon—nor Hanoi or the smaller towns of Vietnam, for that matter—it was fundamental to making daily journeys into and out of the city practicable.

PEDALING POWER

Bicycles acquired authority not just by means of their racial associations and social symbolism, or solely by virtue of their everyday utility, but also through their use by and identification with agents of state power. This association began early in the histories of the Indian and the Vietnamese bicycle. There was, for instance, a move in India around 1900 to put soldiers and policemen on bicycles in order to increase their mobility and effectiveness as agents of surveillance and control, or simply to speed the transmission of messages and commands.[83] In such roles, the bicycle seemed poised to replace the horse.[84] In some Madras districts bicycles were thought ideal for enabling policemen to move between villages in rice-growing areas where the customary means of travel was along slender earth *bunds* that ran between paddy fields, and were too narrow even for a horse.[85] In common with regiments of the British and other European armies before 1914, India's Volunteer Corps, formed of Europeans and Eurasians, had bicycle squads, or "cyclist companies," and cycle races were among the events held at their training camps.[86] Yet, the bicycle remained, in terms of state power, a vehicle of uncertain value. It was believed essential to retain mounted policemen for urban crowd control (no one was overawed by a man on a bicycle), and the opening phases of the Malabar Rebellion in south India in 1921 showed how fatally vulnerable policemen on bicycles could be in times of riot and insurrection.[87] Bicycles, then, were best left to postmen and telegraph boys, where issues of state security and public order were unlikely to be at stake.

Much the same was true in Vietnam. Even at the height of its appeal in terms of fashion and affordability, the bicycle scarcely seemed a satisfactory instrument for the colonial military. As a symbol of martial authority it was

[83] *Report of the Indian Police Commission, 1902–03* (Simla: Government Central Printing Office, 1903), 56.

[84] Such changes were not unopposed. In 1923, when the Madras government decided to replace the Rs 25 horse allowance for police sub-inspectors with a Rs 5 bicycle allowance, the inspector-general complained, in vain, that this would be "a severe blow to the efficiency and well-being" of rural sub-inspectors: *Report of the Administration of the Police of the Madras Presidency, 1923*, 7.

[85] Madras Judicial, Government Order 47, 12 Jan. 1912, Tamil Nadu Archives, Chennai.

[86] *Quarterly Indian Army List for January 1, 1911*, 539, 554, 572, 577, 578. Most, if not all, of these cycle units had disappeared by 1920. The rationale for the use of bicycles as a "useful accessory to modern warfare" is discussed in India, Home (Municipalities), 1902, nos. 31–33, National Archives of India.

[87] R. H. Hitchcock, *A History of the Malabar Rebellion, 1921* (Madras: Superintendent, Government Press, 1925), 37–38.

at best equivocal; tactically it offered few advantages. Officers remained on horseback or, more commodiously, in motorcars, and the rank-and-file of the *garde indigène* continued on foot. Even the civilian authorities showed a reluctance to equip all their agents with bicycles, though local administrations did use bicycles to improve the range and effectiveness of their touring functionaries, especially their indigenous agents. In some parts of Vietnam, particularly in the southern delta, tax inspectors, agents of the PTT (Poste, Télégraphe et Téléphone), and water engineers of the Département des Eaux had bicycles at their disposal, but otherwise, and despite their growing private availability, few were made available to state employees. This was partly due to the particularities of government, partly to concerns about status. In much of the country outside the south, day-to-day state duties fell either on agents of the imperial government at Huế or the kinship networks of village headmen and elders' councils. Where money allowed, status-conscious agents used motor transport.[88]

Yet the bicycle remained in many other respects a significant site for the operations of "the everyday state."[89] Reference has already been made to the attempts, however ineffectual, by the police to crackdown on cycle thievery. A further demonstration of state action was taxation. When bicycles first began to appear on Indian streets they were subject to municipal taxation, just as were horse carriages, ox-carts and palanquins. As in Saigon at about the same time, most municipalities in India (like Bombay in 1911) soon abandoned this source of taxation since the income generated barely justified the cost and effort of collecting it, but some local authorities persisted, most notably in Madras. Cycle-owners there were required to pay a twice-yearly municipal tax of Rs 2 in 1909–1910, compared to Rs 10 for a motor-bicycle and Rs 15 (soon raised to Rs 30) for a car.[90] They received in return a registration number and a brass license badge. Over the following two decades the number of licensed cycles in Madras barely rose above four thousand, but when in 1931–32 the municipality decided to enforce the tax more rigorously and confiscate unlicensed machines, the number rose by eleven thousand

[88] For two compelling pieces of reportage on the everyday realities of technology in the local workings of state power, see "La poste rurale en Annam," *L'Avenir du Tonkin*, 19–21 July 1907; "Le problème de la poste en pleine compagne," *L'Echo Annamite*, 31 May 1921. Also "Compte-rendu sur l'organisation de la poste rurale dans le Quảng Trị," 4 Sept. 1931, Vietnam National Archives Centre IV (hereafter VNA-IV), Đà Lạt, Résidence Supérieure d'Annam, dossier 2523; Report by the director of the PTT in Nghệ An submitted to the Résident Supérieur d'Annam, 11 Nov. 1929, VNA-IV, Résidence Supérieure d'Annam, dossier 2775; Letter concerning the postal network in southern Annam, director of the PTT in Tuy Hòa to the Résident Supérieur, 16 Oct. 1933, VNA-IV, Résidence Supérieure d'Annam, dossier 2899.

[89] On the use of this concept in the context of modern India, see C. J. Fuller and Véronique Bénéï, eds., *The Everyday State and Society in Modern India* (London: Hurst, 2001); Stuart Corbridge, Glyn Williams, Manoj Srivastava, and René Véron, *Seeing the State: Governance and Governmentality in India* (Cambridge: Cambridge University Press, 2005).

[90] *Administrative Report of the Corporation of Madras, 1906–07*, app. I, table IV-F, p. 81.

in a matter of months, exceeding twenty-two thousand in 1932–33. But the Madras Corporation, increasingly convinced that this unpopular exercise of municipal power was not worthwhile, voted to abolish the cycle tax in 1934.[91] In Vietnam, despite earlier reservations, cycle taxes remained an attractive revenue source for struggling regional and local administrations. It was often easier to compel bicycle owners to acquire number plates in small towns and rural areas where the machines were more conspicuous than in the cities.[92] The number of provincial administrations raising money through licenses on such "luxuries" as the bicycle was considerable, as were the complaints from cyclists who insisted that their use of bicycles was no evidence of affluence.[93] Even the difficulty of collecting license fees did not entirely dissuade urban governments, with Saigon, Hanoi, Huế, Vinh, and Đà Nẵng all seeking additional income through bicycle registration schemes.[94]

The difficulty of controlling the movement of bicycles along with other vehicles was part of a more significant and rapidly growing problem for the everyday state: traffic control. Examining the "traffic problem" enables historians of India and Vietnam to observe deep-seated changes occurring in late colonial society. In Vietnam the circulation of people and goods, on foot or by machine, along roads often conceived and engineered by the colonial state as one of its *grands projets*, brought about a daily confrontation between different technologies, races, livelihoods, and conceptions of social harmony. Governing this daily onslaught was a duty that fell to the colonial state and success or failure in that undertaking was an important measure of the way in which ordinary people, cyclists among them, experienced the everyday state. It was clear to most people that traffic needed regulation and road-users discipline. Newspapers in Vietnam regularly reported accidents caused by frenzied motorists, absent-minded cyclists, undisciplined ducks, or poorly sign-posted roads.[95] In the press those causing traffic accidents were

[91] *Administrative Report of the Corporation of Madras, 1931–32*, 16; *1932–33*, 18; *1934–35*, 16.

[92] See letters to this effect from various constables in the file titled "Accidents d'autos voitures administratives: Voitures immatriculées dans autres pays circulés en Annam. Plaques de bicyclettes," 1934, VNA-IV, Résidence Supérieure d'Annam, dossier 3144.

[93] Unfair taxes on bicycles and other everyday goods deemed to be "luxury" commodities by the authorities feature repeatedly in the "wishes" collected from ordinary people, many of them rural, as part of the Commission Guernut, an extensive inquiry in 1937 into the lives of imperial subjects under the Popular Front government. "Voeux des peoples," 1937, Centre des Archives d'Outre-Mer, Commission Guernut, carton 22, dossier Ba. See also Ngo Vinh Long, *Before the Revolution: The Vietnamese Peasants under the French* (New York: Columbia University Press, 1973), 61–81.

[94] See the minutes of a commission responsible for considering such a scheme in Saigon in 1922: Procès-verbal, 13 Apr. 1922, VNA-II, Goucoch, VI.A/8/303 (1–2).

[95] For example, see the description of accidents in: "La route mandarine de Tourane à Hué," *Bulletin des Amis du Vieux Hué*, Jan.–Mar. 1920: 1–135; "Vấn đề giao thông [The traffic problem]," *Tràng An Báo*, 20 June 1937; "Tai nạn nông thôn [Rural accident]," *Tiếng Dân*, 15 Oct. 1931.

often held accountable, individually or collectively.[96] Through these reports, different classes of users emerged as distinct interest groups, including wealthy, "playboy" motorists, "Malabar" chauffeurs, and the rural poor. Yet, interestingly, cyclists were rarely recognized as a group with valid interests of their own. Despite its own incontestable claims to modernity and its earlier espousal by the nationalist middle class, in colonial governance the bicycle often fell on the wrong side of the traditional/modern divide.

In India by the 1930s considerable police time and legislative effort went into devising means of regulating traffic, though there, as in Vietnam, in a discourse that privileged motor vehicles, cyclists tended to be clubbed together with other "traditional" hazards of the road like ambling ox-carts and wandering animals, and were represented as "a source of annoyance and danger to all other classes of road users."[97] Along with pedestrians, cyclists were among those most likely to be killed or seriously injured in traffic accidents or to be blamed for causing other road users to swerve dangerously and collide with other vehicles.[98] "No single factor," declared the Madras government in 1939, "would … contribute more to the reduction of road accidents than an improvement in the 'road sense' of pedestrians and cyclists."[99]

The seemingly undisciplined use of the road by rickshaw-drivers, cyclists, and pedestrians led to considerable efforts in Vietnam, too, to inculcate "road sense" into the public. There were concerted attempts both in the media and by the colonial administration to reform incompetent car drivers, who were often racially vilified as uneducated "Malabars." These efforts resulted in the introduction of regulations for chauffeurs and professional drivers, at least in the cities, which required them to undergo training and hold renewable licenses. In Hanoi in 1937, after several accidents involving "playboy" drivers, young cyclists, and elderly villagers, a licensing scheme similar to one established

[96] Newspapers with anti-colonial proclivities such as *Ánh Sáng* [Light] used nearly every accident to criticize elite abuses of authority, from the emperor Bảo Đại to the Résident Supérieur of Annam. This was especially true after the emperor critically wounded a poor old farmer while speeding along a rural road on the way from his villa in the hill-station Đà Lạt to the imperial capital Huế. See "Đức Bảo-Đại cho ông Hồ-đắc-Cung 300p [His Highness Bảo Đại gives old man Hồ Đắc Cung $300]," *Ánh Sáng*, 23 May 1935; "Xe ô-tô đức Bảo-đại cán một ông già [His Highness Bảo Đại's car runs over an old man]," *Ánh Sáng*, 14 Sept. 1935. *Colon* and more moderate newspapers tended to report accidents while lampooning ignorant poor and rural road users. See "La circulation à Hanoi," *Le Courrier d'Haïphong*, 10 July 1887; "Voeux d'un automobiliste," *L'Avenir du Tonkin*, 22 Apr. 1912; "Les chemins dans nos compagnes," *L'Echo Annamite*, 18 Nov. 1920.

[97] *Report on the Administration of the Police of the Madras Presidency, 1937*, 58.

[98] Pedestrians and cyclists were held responsible for nearly 50 percent of the accidents in the Madras Presidency in 1937, according to the inspector-general of police, "and the necessity for instilling road sense" had become "a very urgent need" (ibid., 27).

[99] *Report on the Administration of the Police of the Madras Presidency, 1939*, 63.

more than decade earlier in Saigon was instituted, with those successfully completing a three-day course paying $5 for a year's license.[100]

However, the task of controlling cyclists and pedestrians, whose ignorance and carelessness so exasperated officials and motorists, remained. Among the allegedly most intractable were yokels, or *nhà quê*, and children, whom the state repeatedly attempted to teach "road sense." In 1931 the government in Annam requested (not for the first time) that local newspapers publish, in both *quốc ngữ* characters and French, the road regulations that applied to pedestrians and cyclists.[101] In 1937 the Résident Supérieur's office in Tonkin again dispatched a copy of rules for foot and cycle traffic to local heads of the administration with orders to post copies in all towns and villages.[102] Fifteen years later the Hanoi Municipal Administration republished an illustrated booklet on "City Traffic: Some Indispensable Facts for Children Cycling on City Streets." The foreword explained that while the booklet had been published with children in mind, "It is always helpful to remind oneself of proper conduct on the road no matter one's age."[103]

But the bicycle, like many other modern technologies, could serve the interests and ambitions of those who opposed the state as well as those who sought to uphold its authority or promote colonial (and postcolonial) governance.[104] Bicycles might not do much to enhance the authority of policemen, but they could be a weapon in the armory of their opponents. They enabled townspeople and villagers to attend political meetings and rallies, and bicycles were used (alongside cars and buses and often with the aid of loudspeakers) to conduct political propaganda in towns and cities. Sometimes they carried the

[100] See the report on "Mesures à prendre pour éviter les accidents survenus sur les routes du Tonkin," 6 Jan. 1937, Vietnam National Archives Centre I (hereafter VNA-I), Hanoi, Résidence Supérieure du Tonkin, dossier 4243. See also the file from several years earlier with letters from the Société de Secours Mutuels des chauffeurs indigènes en Cochinchine demanding a lowering of the license fee and a reduction in the number of licenses: Letter, president of the society to the Governor-General, 9 Jan. 1934, CAOM, Fonds du Gouvernement Général de l'Indochine, dossier 45683. By way of comparison, in that year a laborer of the Distilleries de l'Indochine in Hanoi made $0.35 per day, a middling Vietnamese functionary in that company earned $37 per month and a room in the Hôtel de la Rotonde in Hanoi cost $3 per night. Prices respectively taken from tables of representative wages in Mairie de Hanoi, dossiers 3715 and 3001; and a table concerning the cost of living in Hanoi, Résidence Supérieure du Tonkin, dossier 41355, all VNA-I.

[101] E.g., "Các điều lệ đi trên đường [Traffic regulations]," *Trung Kỳ Nam Giới*, 15 Nov. 1931.

[102] Postal note from the office of the Résident Supérieur du Tonkin to all provincial governors, 29 Mar. 1937, VNA-I, Résidence Supérieure du Tonkin, dossier 4246.

[103] *Việc Giao-thông trong thành phố. Những điều cần thiết cho trẻ em đi xe đạp trong đường phố* [City traffic: some indispensable facts for children cycling in city streets] (Hanoi: Tòa Thị Chính, 1951). The persistent attempts to educate children as well as adults in India in "road sense" are evident from the *Illustrated Weekly of India*, for example the issues of 9 August 1936, and 2 January 1938.

[104] Another example is the camera; see Christopher Pinney, *The Coming of Photography in India* (London: British Library, 2008).

party flag or the picture of a revered leader.[105] When Subhas Chandra Bose organized the Congress party's meeting at Calcutta in December 1928, a squad of cycle volunteers paraded alongside those on motorbikes and horses.[106] In the Telengana uprising of 1948–1951, women activists took to the bicycles that were otherwise the prerogative of men.[107] Bicycles not only facilitated the physical mobility of party cadres: they also seemed, in however small a way, to redress the unequal equation between the technological resources of the state and those of its nationalist or communist adversaries. During the Indochina wars bicycles famously became the pack-mules of the Việt Minh and later the NLF and People's Army, extending and supporting often thinly stretched supply lines. Bicycles became agents in the fighting, their unobtrusive presence on the street providing the perfect place of concealment for a bomb. Its frame packed with explosive, the bicycle was left inconspicuously beside the intended target.[108] Examples of bicycles being used in this way are recorded from the Second Indochina War, though the ploy had been adopted several decades before, including by the Irish Republican Army.

CONCLUSION

On a global scale neither India nor Vietnam was a particularly large importer and consumer of bicycles. While India under colonialism acquired, in terms of "big technologies," one of the world's largest railroad systems and an extensive irrigation and telegraph network, relative to its size and population its uptake of bicycles (and other modern technological goods like sewing machines) was relatively small. It was calculated in 1946 that, of the world's estimated 70 million bicycles, India, with a population in excess of 400 million, had only 1.5 million. This was equivalent to a mere 3.85 bicycles for every one thousand Indians compared to ratios of 255 in Britain, 463 in the Netherlands, and 539 in Denmark.[109] But such statistics create a misleading impression of the significance of the bicycle, and of everyday technologies more generally, in the late-colonial territories across South and Southeast

[105] See Owen M. Lynch, *The Politics of Untouchability: Social Mobility and Social Change in a City of India* (New York: Columbia University Press, 1969), for a photograph, facing page 98, showing a portrait of B. R. Ambedkar mounted on a bicycle. The role of modern technologies—the motor-car, telephone, and camera, as well as the bicycle—has hardly been noticed in the conduct of political agitation in India, but there are suggestive indications in Krishnadas, *Seven Months with Mahatma Gandhi: Being an Inside View of the Indian Non-Co-operation Movement of 1921–22* (Ahmedabad: Navajivan Publishing House, 1951), 122–53.

[106] *Statesman* (Calcutta), 29 Dec. 1928.

[107] Stree Shakti Sanghatana, *"We Were Making History": Life Stories of Women in the Telengana People's Struggle* (New Delhi: Kali for Women, 1989), 106, 181–97.

[108] Patrick Chen, "The Bicycle in War: Vietnam 1945–1975," in Andrew Ritchie and Rob van der Plas, eds., *Cycle History 12: Proceedings of the Twelfth International Cycling History Conference, San Remo/Pigna, Italy, 25–28 September 2001* (San Francisco: Cycle Publishing and Van der Plas Publications, 2002), 76–81.

[109] *Report of the Indian Tariff Board* (1946), 3.

Asia. As we have argued in this article, the importance of the bicycle can best be measured less in terms of "global diffusion" and "technology transfers" than of the way in which it became implicated in the lifestyles and work regimes of a significant section of the population, and was caught up in issues of race, class, and gender, and of national identity and colonial state power. While the bicycle's modest claims to modernity were at times treated with little more than contempt when it came to such matters as regulating urban traffic, it nonetheless served for at least part of its late-colonial career as an emblem of middle-class mobility, even as it became increasingly absorbed into the working lives of the lower classes.

This article has argued from the vantage point of late-colonial India and Vietnam for the value of understanding commonplace technologies through trans-cultural comparison and in terms of local availability, utility, and meanings. The bicycle represents a conspicuous example of how new "everyday technologies," despite their foreign origin, could be rapidly assimilated into colonial society and in the process acquire new contexts and meanings. Did bicycles empower? Apart from the material benefits they brought to foreign manufactures, they helped open up a range of opportunities within the colony for employment and entrepreneurship, for collective sociability and individual self-expression. Even for the relatively poor they held out possibilities of change, not all of them (given the extent of bicycle theft) sanctioned by law. But they also contributed to the exploitation of labor, to the daily grind of traveling to and from work, and exposure to the hazards of crowded streets and swirling traffic. Viewed comparatively, bicycles appear to have done more in India than in Vietnam to arouse anti-consumerist ire, but also to foster the cause of economic self-sufficiency, and to articulate or accentuate opposition to the spread of modern technological goods to such generally unprivileged groups as women and untouchables. If in both British India and French Vietnam bicycles made a modest contribution to the expanding technological reach and quotidian operations of the everyday state, they also provided evidence of a capacity to use such technologies to contest colonial power. Once introduced, new technological goods such as bicycles, and the skills needed to use, repair, and adapt them, could hardly be restricted to European or official use. Indeed, in neither Vietnam nor India was there any obvious attempt to do so. Hence their availability for a variety of local usages, but hence, too, their often equivocal effect—in promoting social change in some quarters, providing a vehicle, literally and metaphorically, for movements of physical fitness and racial, regional, or communal self-esteem, while seeming in other quarters to reinforce difference and give fresh force to established social norms. The gendered reception of the bicycle is a striking example of how a modern technology could both symbolize the possibility of change (for women) and the practical denial of it. But in India, too, the bicycle's assimilation into existing hierarchies of caste and community, especially in village life, suggests a similar

conflict. The bicycle by the mid-1960s may still have been far from ubiquitous in parts of India and Vietnam, but it had already been significant in amplifying or qualifying processes of change and, in some contexts at least, by virtue of its wide availability, of empowering some of the people for some of the time.