in both Kumbakonam and Madras, failing because of inattention to the nonmathematical curriculum.

Yes, Ramanujan was enormously gifted, particularly in the formal manipulation of series, continued fractions, and the like. But even here he had historical peers, albeit very few, perhaps only Euler and Jacobi.

It is only by the delicate thread of Hardy that Ramanujan escaped falling to obscurity. Had Hardy not recognized Ramanujan, who would have? Hardy called Ramanujan "the one Romantic incident in my life," and perhaps rightly, but the sophisticated, exquisitely educated, and iconoclastic Hardy is almost as interesting a study as Ramanujan himself. Hardy didn't need Ramanujan. Indeed, Ramanujan wasn't even his most famous collaboration. The works of Hardy and Littlewood are so pervasive that it has been said that there were three great English mathematicians of the period: Hardy, Littlewood, and Hardy-Littlewood. But Ramanujan needed Hardy, and as the two stories cannot be separated, Kanigel also provides us with an intriguing portrait of the earlier parts of Hardy's somewhat eccentric life.

Where does Ramanujan belong in history? In raw ability, Hardy rated Ramanujan at 100 and Hilbert at 80, while Littlewood scored 30 and Hardy 25. But Hardy's and Littlewood's individual effects on the stream of mathematics were more profound, as of course were Hilbert's. Nonetheless, Ramanujan is a great figure who had a brief four or five years on the world stage to make his mark. As these years overlapped perfectly with the First World War, contact with Europe was impossible and activity in England was much reduced.

Hardy writing in 1940 concluded of Ramanujan's work:

> It has not the simplicity and inevitableness of the very greatest work; it would be greater if it were less strange. One gift it has which no one can deny, profound and invincible originality. He would probably have been a greater mathematician if he had been caught and tamed in his youth; he would have discovered more that was new, and no doubt, of greater importance. On the other hand he would have been less a Ramanujan, and more of a European professor and the loss might have been greater than the gain.

Today the results seem equally original but perhaps a little less strange.

As Kanigel puts it: "Cut cruelly short, Ramanujan's life bore something of the frustration that a checked swing does in baseball; it lacked follow-through, roundedness, completion." Hardy, an avid sports fan, might have liked this metaphor. Kanigel asks, "Would he have become the next Gauss or Newton?" and wonders whether his genius was built of "sheer intellectual

Indian stamp issued in 1962 to honor Ramanujan. [From *The Man Who Knew Infinity*]

power, different only in degree" from the normal or if it was "steeped in something of the mystical." Reasonably, he equivocates:

> In each case, the evidence left ample room to see it either way. In this sense, Ramanujan's life was like the Bible, or Shakespeare—a rich fund of data, that holds up a mirror to ourselves or our age.

Kanigel both provides the data and holds up the mirror in this superbly crafted biography. The hardest part of mathematical biography is including the mathematics, giving it content and life, without destroying the story. Kanigel does succeed in giving a taste of Ramanujan the mathematician, but his exceptional triumph is in the telling of this wonderful human story.

As children of a mathematician (from Hardy's school), we grew up knowing the rudiments of this story. As mathematicians we have had occasion to work in Ramanujan's garden—to use Freeman Dyson's lovely metaphor. For us this book was a pleasure to read. We hope it is for many others. It is a thoughtful and deeply moving account of a signal life.

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A Gendered Life

Jessie Bernard. The Making of a Feminist. ROBERT C. BANNISTER. Rutgers University Press, New Brunswick, NJ, 1991. xii, 276 pp. + plates. $27.95.

The sociologist Jessie Bernard, now in her late 80s, had already passed the conventional age of retirement when the feminist movement of the late '60s radically transformed her intellectual perspectives and inspired her to begin a new phase of her career. Between the ages of 68 and 84 she published six books (including *The Future of Marriage* and *The Female World*) and dozens of articles, works that are generally viewed as her most original and brilliant. It was in this late period that she achieved eminence in her profession, and it would not be an exaggeration to say that she has been canonized as a "founding mother" of sociology.

A study of Bernard's life and work is a worthy project for several reasons: as a window into the history of 20th-century sociology, as a case study of obstacles that women encounter in academe, as an account of one social scientist's deepening insights about gender. Unfortunately, her present biographer does not display a genuine appreciation or understanding of his subject. His treatment of her life is not only dismissive of her work and excessively focused on her early marriage but mean-spirited in its method and approach.

Bannister announces his opinion of Bernard's work in the introduction, when he explains his book is "not an intellectual history of the analytic or internal variety" because "Bernard has not been a deep thinker." In fact, Bannister typically deals with Bernard's work by providing brief summaries of her books followed by extensive quotations and arguments from her most negative reviewers. One might mistakenly conclude from Bannister's evidence that Bernard never found an appreciative audience. Throughout the book, Bannister characterizes Bernard as intellectually superficial and timid, an ambitious seeker of recognition who was always ready to jump on the latest bandwagon. He minimizes Bernard's later and widely admired work as not being especially revolutionary and observes that she was unable to keep up with the more demanding and current feminist theorists. The best he has to say about Bernard is when, trying to account for her appeal, he grants her "openness to new ideas, an ability to articulate issues before others have done so, and an engaging frankness concerning her own shortcomings."

Bannister misunderstands Bernard's importance for a number of reasons. First, he does not recognize that in her later work she was not following fashion but was well ahead of her time and willing to engage in controversial subjects others ducked. Her insights about the darker sides of marriage and the different worlds occupied by women and men even when they share households were highly original and have had a significant and lasting influence on younger scholars. Her thoughts about the impact of gender on the ways social scientists conceptualize and conduct their work opened up debates that are still of

profound interest to feminist scholars. Bannister also undervalues Bernard's contributions as a mentor and role model because, although he acknowledges her devotion to helping young women scholars, he seems not to understand the importance of those activities or what they meant to the recipients. Indeed, Bannister opens his biography with an image of Bernard at age 67 sitting on the floor with a bunch of young women at a consciousness-raising session she had "wangled" her way into, oblivious of how uncomfortable she was making the others. As a graduate student, I attended some gatherings Bannister describes, and I can only recall the appreciation and admiration Bernard inspired in younger women with her warmth, openness, and refusal to pull rank.

Although a derisive attitude is evident throughout the book in the attention given to details that might make Bernard appear silly, Bernard's pluckiness, independence, and verve come through nevertheless: "Despite her liberated behavior, she could never quite escape prevailing notions of what a woman should be: whether the flapper ideal of the 1920's (even if the bespectacled and relentlessly studious Jessie made a less than convincing specimen) or a new cult of domesticity that led her to lobby her recalcitrant and aging husband in the late 1930's to allow her to have children."

Unfortunately, most of the book is not devoted to Bernard's work or the professional and academic worlds she inhabited but rather to speculations on the most painful aspects of her marriage to the sociologist Luther Bernard and the problems (actually rather run-of-the-mill) she encountered raising children. One can only wonder why Bannister would focus so intently on the worst moments of Bernard's private life. In his introduction, he argues that one cannot untangle Bernard's social theories from her personal life, but since he discounts her as a theorist that explanation rings a bit hollow. Perhaps one could argue, à la Kitty Kelley, that the personal lives of public figures are fair game for those who seek to understand history, but surely Jessie Bernard wielded no power that could rationalize such an intrusion. In his introduction, Bannister reports that this biography developed unexpectedly from research on a larger project, still in progress, on women in the social sciences during the "interwar" years. One can only hope, for their sake, that the others were less open and trusting with their personal letters and documents.

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Some Other Books of Interest

Historical Archaeology in Global Perspective. LISA FALK, Ed. Smithsonian Institution Press, Washington, DC, 1991. xiv, 122 pp., illus. Paper, $9.95.

A modest harbinger of what will surely be a flood of publications tied to the upcoming 500th anniversary of Columbus's voyages to America, this collection of four essays stems from a series of roundtable meetings held as part of the National Museum of American History's planning for its exhibition centered on the event. The purpose of the exhibition will be to "explor[e] the ramifications of the cultural exchanges that followed Columbus's historical landing," and these papers do the same in smaller compass.

The volume opens with an introduction by James Deetz expounding the importance of a "comparative, international perspective" for an understanding of the spread of European culture and noting that American historical archeology, which has its roots in the study of prehistory, has for that reason scanted such an approach. Finessing controversies such as that over Norse *vs.* Italians, the three specifically focused essays that follow deal with the Dutch as colonists. In the first, Carmel Schrire and Donna Merwick draw some comparisons and contrasts between the modes of settlement in North America and South Africa, focusing on how the Dutch policy of negotiating with rather than subjugating the native inhabitants worked out in practice. Paul R. Huey then presents an account of the Dutch presence at Fort Orange, near Albany, providing historical background and reporting on archeological investigations from 1970–71, which reveal that in spite of the relative isolation of the site "no effort was spared in . . . reestablishing the comfort and sophistication of everyday life in the Netherlands." The third essay, by Schrire, deals with the encounters between the Dutch and the Hottentots or Khoikhoi people in 17th-century South Africa, addressing the question "What did each side see?" as evidenced by documents from the period. After noting that historians and, following their cue, prehistoric archeologists have emphasized clashes due to the desire of the Dutch to utilize the land for livestock, Schrire reports evidence from an excavation of a Dutch outpost that indicates that hunting was more important relative to herding than such accounts would suggest. The final essay in the volume returns to the general question of what the discipline of historical archeology as such has to offer for the understanding of early America. The author, Kathleen Deagan, concludes that the discipline can, through its "articulation of history, archaeology, biology, and the physical sciences," especially elucidate "the underside of American history: exclusion as well as incorporation, dominance and resistance in addition to the American dream."

The reference lists for the individual essays are augmented by a "selected bibliography" covering general archeological concerns, Dutch colonization, the Spanish borderlands (Florida, the Caribbean, and the American Southwest), and cultural contact.—**K.L.**

The Monkeys of Arashiyama. Thirty-Five Years of Research in Japan and the West. LINDA MARIE FEDIGAN AND PAMELA J. ASQUITH, Eds. State University of New York Press, Albany, 1991. xvi, 353 pp., illus. $54.50; paper, $17.95.

The "monkeys of Arashiyama" are offshoots of a troop of free-living macaques first discovered on the island of Koshima in 1948, and their study by Kinji Imanishi, Syunzo Kawamura, Itano Junichiro, and other researchers from the University of Kyoto marks the beginning of the field of primatology in Japan. To bring the elusive monkeys into the open for easier observation, provisions were laid out for them at several sites, and the researchers were able to identify individuals, assess their social interactions, and compile genealogies, producing a unique set of longitudinal data. As the troop grew in size it fissioned, becoming a nuisance for nearby human settlements. The monkeys had in the meantime attracted the interest of American researchers, and a segment of the now troublesome population was offered to them for export by the Japanese researchers. After an extensive search for a suitable habitat, a group of the monkeys was resettled on a Texas ranch ("Arashiyama West") in 1972, and research on the Arashiyama natives has continued in both nations.

In 1987 a group of researchers from Japan and the West met in Banff, Alberta, to discuss and codify some of the accumulated data, and the present book is a result of that effort. After some prefatory material in which several researchers present reminiscences of or observations on the Arashiyama projects, the ventures are discussed more formally under the heading History and Context, with Michael Huffman and Linda Fedigan giving histories of the Kyoto and Texas research respectively and Jean Kitahara-Frisch and Pamela Asquith each discussing the different orientations of Japanese and Western primatologists. There follow sets of three papers reporting on longitudinal data on dominance and reproduction in Japanese macaque females, three reporting on cross-sectional studies of the female life course, and two reporting on