

## THE LIVES OF THOSE WHO WOULD BE IMMORTAL

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David Leavitt. *The Indian Clerk: a Novel*. London: Bloomsbury, 2008; New York: Bloomsbury, 2007. Pp. 485. ISBN 1-59691-040-2. £16.99; US\$24.95 (hb).

From the start, this novel interested me for two reasons. First, it attempts to tell us the personal stories of two individuals who were working at the highest level in a very abstract field, namely G. H. Hardy (1877–1947) and Srinivasa Ramanujan (1887–1920) during their collaboration on pure mathematics between spring 1914 and spring 1919. Obviously the same problems would arise in trying to tell the personal story of Bertrand Russell’s supervision of Ludwig Wittgenstein in mathematical logic, which occurred at Cambridge University in the years just before the start of the Great War. It is a great challenge to try to tie personal dynamics and abstract thought into a single coherent narrative. There are implications for the philosophy of mathematics and the history and sociology of science. So, of course, we have to ask: how does author David Leavitt rise to this challenge?

Second, a more personal reason: Paul Wheatley<sup>1</sup> told me shortly before his death that he thought this period at Cambridge represented the highest accom-

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<sup>1</sup> See Brian J. L. Berry and Donald C. Dahmen, “Paul Wheatley, 1921–1999”, *Annals of the Association of American Geographers* 91 (2001): 734–47.

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plishment possible for an academic institution: its fellows and masters had managed to attract and then recognize the genius of Ramanujan and Wittgenstein and to admit them to advanced studies without any real academic credentials. Wheatley had been the chair of the Committee on Social Thought at the University of Chicago; so, he knew something about such matters, as he did about many things involving humans, human settlements, and their arrangement in the world. Incidentally, Wheatley himself appeared as a character, Battle, in *Ravenstein*, Saul Bellow's *roman à clef* about Allan Bloom. So, to the extent that Cambridge University just before and during the Great War plays a role here, we want to learn as much as we can about the atmosphere of the place.

*The Indian Clerk* is a historical novel—in this case naming actual names, elaborating what we know about real people and occasionally adding fictional characters—all centered on the extraordinary mathematical genius Ramanujan and his equally extraordinary importation from India to Cambridge. The story is told largely in the third person, by an omniscient narrator, but repeatedly we also have the inner voice of G. H. Hardy: there are a number of chapters with the indication “New Lecture Hall, Harvard University”, dated 1936, in which Hardy speaks in the first person. In these passages David Leavitt uses parts of the published lectures, along with G. H. Hardy's private thoughts—as imagined by Leavitt—about this “one romantic incident in my life” and about other matters that still haunt him.<sup>2</sup> The novel is thus in some sense more about G. H. Hardy and his inner life than it is about Srinivasa Ramanujan.

The triumph of the novel is its ability to reconstruct and convey in a lively manner the circumstances of the time, the look and smell of the place, the cross-currents, dynamics, and dislocations of people during these years. Leavitt has woven together a great deal, from many different realms: pre-war meetings of the Apostles, the high table, the pre-war mathematics tripos, the method of collaboration between Hardy and J. E. Littlewood, Cambridge as military training grounds and as hospital for the wounded, vegetarian cookery, feminism, Hindu gods and goddesses, academic career struggles, Russell's dismissal and Hardy's campaign on his behalf, homosexuality during the War, Winnie the bear at the London Zoo, etc.

Leavitt mentions in a note at the end of the novel that his work revolves around the lives of “three remarkable men”. After Ramanujan and Hardy, the third is Bertrand Russell. Russell does indeed pop up repeatedly, at a meeting of the Apostles, at high table, then in a panic about the start of the war, saying

<sup>2</sup> G. H. Hardy, *Ramanujan: Twelve Lectures on Subjects Suggested by His Life and Work* (Cambridge: Cambridge U. P., 1940). Two lectures were presented at Harvard in 1936; the first, a more personal recollection, was printed unchanged. The quote is from p. 2. The second lecture was expanded into the remaining published lectures, all considering specific mathematical topics.

“Everything we believe in is over.... It is the end.... Horrible as it is, I have to get the news as soon as it arrives.” Hardy struggles against Russell’s dismissal; we hear about the auctioning of his Cambridge belongings; and so on—all with some slight ornamentation of the historical record by Leavitt. Essentially though, Russell is part of the scenery and the succession of events, a well-documented figure but not a developed character.

One of Leavitt’s devices is to expand greatly the role of Alice Neville, wife of mathematician Eric Neville. Neville, probably travelling without his wife, was the young fellow assigned to contact Ramanujan in Madras and ultimately to bring him back to Cambridge. Indeed we know that Ramanujan stayed in the Nevilles’ home for his first months in England. So, Alice did in fact extend kindness and sympathy to Ramanujan. By making her as well into a mildly adventurous female, somewhat below the level of Bloomsbury, someone who was attracted to the exotic Indian mathematician and someone who worked as a volunteer translator of war coverage from the foreign press for *The Cambridge Magazine*, her character carries the story forward in ways that we might not otherwise experience or consider. We would not, I suspect, otherwise get anything like the rich tapestry that results from Leavitt’s work in reconstructing the time and place, and certainly we would not get it from the ordinary scholarly telling of the same history.

All of this is accomplished admirably. Dutifully, too, Leavitt documents his sources and, as he calls them, his inventions and half-truths, that is, his additions to the historical record. Naturally, though, in reviewing such a book as this for a scholarly journal, one must examine historical questions, outside the realm and intention of a novel. Here we need to ask how well the novel represents what we know about the actual historical people and events. In particular we need to consider the portrait of G. H. Hardy.

Hardy was not your average bloke. His eccentricities were numerous. He could not tolerate mirrors in his living quarters. He disliked fountain pens, telephones, and all mechanical devices. On sunny days, he wore extra sweaters and took an umbrella, in order to insure good weather for the cricket matches he enjoyed. He could converse wittily on almost any subject, but he disliked all trivialities and formalities such as introductions. He admired very special qualities in others, and ranked them on a scale of 100: one of the most important of these was “spin”, derived from cricket—not public relations—“a certain obliquity or irony of approach”.<sup>3</sup> He was a master of “spin” as one can easily see from his own writing. He could be sardonic about many things that others thought important, even hurtful about religious matters—he claimed to be an atheist. Yet, on one occasion, worried that his life might be in danger during an im-

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<sup>3</sup> C. P. Snow, “Foreword”, in G. H. Hardy, *A Mathematician’s Apology* (Cambridge: Cambridge U. P., 1967), p. 26.

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pending rough crossing from Denmark to England, he mailed postcards to all his friends telling them that he had just solved the Riemann hypothesis (still unsolved), apparently assuming that God, in whom he supposedly did not believe, would at least keep him alive to prevent him from playing such a witty final hoax. He could be diffident and self-effacing for rhetorical effect, especially where others were pompous and hypocritical. He could also be unflinchingly candid about himself and others. Let me then consider how these qualities were manifested in three areas: religion, sex, and mathematics; and how they are reflected in the novel.

About religion, there are really two questions: first about Hardy's view of Ramanujan's religion, and second about his own religious feelings. The first question arises because of the great apparent difference between Ramanujan, an orthodox high-caste Hindu and a strict vegetarian, and Hardy, who seems on occasion to be a proselytizing atheist. Understanding this situation is complicated by Hardy's self-depreciation of his understanding of his own religious psychology. Also, we need to see that the Hindu symbolism used by Ramanujan to express his creative spirit was not some kind of psychotic delusion: he did not literally believe that the Namakkal Goddess wrote theorems on his tongue. Hardy's writings about this are principally concerned with defending Ramanujan and his work against the popular notion that he was some kind of Oriental mystic, an inspired idiot, or a psychological freak. Rather, Hardy says, he was "a shrewd and sensible person . . . fundamentally normal and sane". Indeed, "at bottom and to the first approximation, R. was (intellectually) as sound an infidel as Bertrand Russell or Littlewood." Here Hardy was writing to the astrophysicist Subrahmanyan Chandrasekhar, a person who knew the subject, had thought about Ramanujan's life, and accepted this view as well.<sup>4</sup>

Naturally Hardy's own religious views come into this. He seems to have believed in a mildly malevolent but counter-suggestible God, hence those peculiar wagers in which Hardy attempts to hedge his bet about the weather or chances of his own survival. Really, then, Hardy was not so much an atheist as someone whose God did not deserve devotion and worship. Many of his sarcastic quips about religion are actually not about God but about the established church and its irrationalities. Indeed Hardy did not just make cracks about the church; he refused to set foot in chapel even for official university business. E. A. Milne wrote in his obituary of Hardy:

Though his attitude to religion shocked many people—his Polish pupil Zygmund used to say that Hardy was the only man he had ever known who took God for his personal

<sup>4</sup> S. Chandrasekhar, "On Ramanujan", in Bruce C. Berndt and Robert A. Rankin, eds., *Ramanujan: Essays and Surveys* ([Providence, RI]: American Mathematical Society; London: London Mathematical Society, 2001), p. 25.

enemy—yet Hardy’s deep reverence for mathematics and for all things of the mind was precisely of the same kind as impels other people to the worship of God; the only enigma about Hardy was that this never seemed to occur to him.<sup>5</sup>

Now this is an interesting observation; however, the “enigma”—the notion that the association of reverence for things of the mind with religious feeling never occurred to Hardy—is hardly credible. You simply have to read Hardy’s lecture, “Mr. Russell as a Religious Teacher”.<sup>6</sup> Once you get past the inside jokes, the sardonic academic banter, the sophomoric tone, the oblique putdowns—i.e. the “spin”—you see that the entire point of the lecture is to defend Hardy’s personal and private feelings of reverence against possible annexation by Russell’s notion of religion in “The Essence of Religion”. So, the connection certainly had occurred to Hardy; despite all the joking, it seems to have been important to him and part of an exclusively private sphere. As an aside, let me add that there can be no doubt about what Hardy assumed his audience, at least when he was speaking to the Apostles, would understand by “one single, simple trill, a trill which even the absolute sceptic might enjoy” (*ibid.*, p. 128).

By and large, though, the novel gets the matter of religion right, simply by sticking to the facts as we know them. In the matter of sex, Leavitt goes beyond the facts. In particular he invents two characters, the soldier Thayer and the policeman Richards, who appear in episodes that Leavitt has imagined. One of these is presented as objectively true, the other as a fantasy, perhaps to avoid a possible lawsuit by Scotland Yard. These scenes are in part empathetic and tender, in part exploitative and humiliating. It would be nice to imagine that Hardy became intimate with a lower-middle class lad, overcoming his reserve out of sympathy for this wounded infantryman in the uncomfortable open-air hospital at Cambridge, in the manner of Walt Whitman. But this episode results in a sex act that even the author, and the author’s character, find improbable or at least out of character, and from there it turns into a farce. The fantasy episode comes at the end of the book; it involves Hardy being caught out in a past misstatement to the London police and then, in his fantasy at least, being sexually dominated by the officer. Indeed Hardy did tell a lie in early 1918 to protect Ramanujan from being held for attempting suicide. This is complicated enough in actual fact without the addition of a gratuitous sexual fantasy on the part of Hardy’s character. It is highly likely that all of Hardy’s relations with authority were conducted with extreme reserve and deference, on both sides. In the real event, as reported by S. Chandrasekhar, it seems that an official of Scotland Yard

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<sup>5</sup> “Godfrey Harold Hardy”, *Monthly Notices of the Royal Astronomical Society* 108 (1948): 44–6 (at 45).

<sup>6</sup> *Russell* n.s. 1 (1981): 119–35. In a separate bibliographic note, K. Blackwell tells us that the lecture was first given, probably to the Apostles, in early 1913 (same issue, p. 145).

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merely informed Hardy, when he was injured in an accident in 1936, that they had been aware of his misstatement at the time he made it, i.e. that they knew that Ramanujan was not yet a Fellow of the Royal Society, but that this lie was officially considered unimportant since they knew that Ramanujan was an important mathematician.<sup>7</sup> This suggests a lot of discretion on their part, rather than an effort to humiliate Hardy, the then Sadleirian Professor of Pure Mathematics at Cambridge.

Concerning Hardy's sex life, we do not know very much. Littlewood said that he was a "non-practising homosexual". Robert Kanigel in his authoritative biography of Ramanujan suggests that Hardy led either "an almost wholly asexual life" or "a secret sexual life ... elaborately and successfully hidden", but that in either case this required "a vast personal defenseworks ... somewhat easier and more ordinary by the times in which he lived" but still "exact[ing] its toll".<sup>8</sup> Snow in his foreword to Hardy's *Apology* starts by speaking about Hardy's immense personal reserve, and then adds,

But he had, scattered through his life, two or three other relationships, different in kind. These were intense affections, absorbing, non-physical but exalted. The one I know about was for a young man whose nature was as spiritually delicate as his own. I believe, though I only picked this up from chance remarks, that the same was true of the others. To many people of my generation, such relationships would seem either unsatisfactory or impossible. They were neither the one nor the other; and unless one takes them for granted, one doesn't begin to understand the temperament of men like Hardy (they are rare, but not as rare as white rhinoceroses), nor the Cambridge society of his time. He didn't get the satisfactions that most of us can't help finding; but he knew himself unusually well, and that didn't make him unhappy. His inner life was his own, and very rich. The sadness came at the end.... (Pp. 26-7)

Now, none of this suggests the kind of episode with a lad like Thayer that Leavitt imagines, at least not without a lot more psychological motivation than he gives us. And I think that Leavitt has failed to pick up an important clue about the guarded nature of Hardy's sexuality. In some general way, perhaps, it is important to make the point that relationships and events such as Leavitt portrays did happen; this is done well in the *Regeneration* trilogy by Pat Barker. But it is hard to believe that any such thing happened to Hardy. The relationship with Thayer might, for example, be a bit more credible if Thayer were a "spiritually delicate" scholar-athlete-poet.

Actually I find myself rooting for the improbable version of Hardy, one with

<sup>7</sup> S. Chandrasekhar, "An Incident in the Life of S. Ramanujan, F.R.S.", in Berndt and Rankin, eds., *Ramanujan*, pp. 77-9.

<sup>8</sup> Robert Kanigel, *The Man Who Knew Infinity: a Life of the Genius Ramanujan* (New York: Charles Scribner's Sons, 1991), p. 144.

a passionate, secret life of intimacy that he kept entirely personal. Alas, I doubt it. So let us turn to the passion and the work that we know was shared openly by Hardy and Ramanujan: pure mathematics. This—the part about their actual work—is certainly the area where the novel is weakest. Leavitt supposes, for example, that Ramanujan had a breakthrough on partition theory while counting lentils—perhaps it is true that he counted lentils as a three-year-old, but one suspects that a breakthrough at his age and level of expertise was a purely mental act, even if it did occur while Ramanujan was preparing rasam. But work of any kind is hard to portray for a writer; offhand I think only Primo Levi succeeds at it. Mathematics is particularly difficult. While Hardy's book *A Mathematician's Apology* does concern itself with being a creative mathematician, it does not really say much about how mathematicians do their work. One source here might be that classic on heuristic by George Polya, *How to Solve It*. But Polya was such a practical man that he returned Ramanujan's notebooks to Hardy, saying that he had his own work to do, and that, if he started on this, it would take up the rest of his life.

The task thus is very difficult, even for a gifted mathematician, which Leavitt does not claim to be. Despite that, what might we gain if we supposed that it were possible? Here my imagination runs up against my own considerable limitations as a mathematician. Nonetheless, let me try. First, we might see more vividly how extraordinary the gifts of Ramanujan really were. The stories about his ability to do mental calculation do not count for much here, nor does the fact that Ramanujan could quickly solve mathematical puzzles published in the *Strand* magazine. What does count is that it was instantly clear to him that there was a general solution in the form of a continued fraction and that he could immediately dictate it. Similarly it would be good to know not just that Ramanujan had an infinite series that converged on the proper value of pi much more quickly than previous methods, but also to have a more vivid sense of how extraordinary that was, a comparison with the old method. We might also see Ramanujan's genius more clearly if we had been given the report of Littlewood about the difficulty of bringing Ramanujan up to date with European mathematics: every time a new topic was mentioned, Ramanujan brought forth "an avalanche of original suggestions", making it impossible for Littlewood to complete his task.<sup>9</sup>

Second, we might understand what kind of mathematics Ramanujan and Hardy and Littlewood shared in common. A lot of work has been done on Ramanujan's mathematics, and some of this might have been reflected in the novel. Hardy himself had led the way in this. In the very first letters from Mad-

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<sup>9</sup> Edward Shils, "Reflections on Tradition, Centre and Periphery and the Universal Validity of Science: the Significance of the Life of S. Ramanujan", *Minerva* 29 (1991): 416.

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ras, Hardy and Littlewood recognized something special, something that other mathematicians had ignored or did not see, likely something that resonated with their own work. Was it Ramanujan's ability with infinite series, converging and diverging? In other words, we need a bit of interpretation about what was happening. Such interpretation exists, and one can tackle it. Just as a start: Ramanujan seems to have explored infinite series of numbers since his childhood, and knew his way around with an ease that can only come from great familiarity.

Finally, most of all, perhaps we could grasp more concretely what it is like to have mathematical insights. This is, of course, the most difficult task. But I am disappointed that Leavitt apparently has not tried to see, and certainly has not succeeded at showing, precisely what it feels like to shout "Eureka!" with some justification.

It was, after all, to his collaboration with both Littlewood and Ramanujan "on something like equal terms" that Hardy kept returning in his thoughts (*Apology*, p. 148). What kind of immortality did they seek? Clearly it was abstract, "pure", perhaps as Hardy insisted, useless: conquest of the infinite realm of numbers by means of Euclidean proof.

Leavitt uses as his epigraph Hardy's remark about immortality, "Archimedes will be remembered when Aeschylus is forgotten, because languages die and mathematical ideas do not." This is from Hardy's *Apology*, and there is a note at the end of that book that returns to this topic. In this final passage, Hardy considers whether he would prefer a statue on a column "so high that the statue was invisible, or low enough for the features to be recognizable" (p. 151). For a man like Hardy, who could not tolerate a mirror of any kind in his presence, this was really not a serious choice at all: he would choose something totally impersonal, perhaps just a memorial column. The portrait that Leavitt has given us, and I am not sure that this is such a bad thing on its own, is a statue with no pedestal at all, a portrait of Hardy with feet firmly on the ground, a person more or less like the rest of us. Leavitt has done so by making Hardy a more familiar character than he really was, a rounded character, a man composed of relatively ordinary factors, but perhaps too well rounded to represent the real person. In the process we gain a sense of immediacy about the time and place, but we fail to grasp the truly extraordinary in Ramanujan and the exceptional rarity of Hardy.

Perhaps G. H. Hardy's other great collaborator, J. E. Littlewood, should have the last word—it turns out to be not something he actually said, but something he realized later that he should have said: "R. A. Leigh once asked in Hall what Hardy was like. My neighbour and I merely laughed. I should have said, 'All individuals are unique, but some are uniquer than others.'"<sup>10</sup> This applies to both Hardy and Ramanujan, two primes.

<sup>10</sup> J. E. Littlewood, *Littlewood's Miscellany*, ed. Belá Bollobás (Cambridge: Cambridge U. P., 1986), p. 136.