

The Hunting of the Babbages: A Decade in the Life of Garry Tee

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Abstract—Garry Tee entered university in Auckland, New Zealand, in 1949 at the age of 16, became a programmer in 1958, and an academic in 1964. By the 1980s he was a historian with a particular interest in Charles Babbage. This article traces his work over more than a decade, based on his personal archive. It focuses on eight distinct themes in his work, from his hunt for Babbage relics to his re-interpretation of a work by Lewis Carroll.

Garry John Tee (Figure 1) was born during the Great Depression in Whanganui, New Zealand¹ on March 28, 1932, the son of George Tee (1900-1985) and Mabel Jean Tee, née Young (1902-1990). George was sometimes described as an engineer, but in Whanganui he scraped a living by operating an informal mobile library [9]. The family left Whanganui in 1937 when Garry was 5, living in several of the Public Works Department camps set up by the New Zealand government to provide employment. George Tee operated a dragline excavator at the Goose Bay quarry near Kaikoura and other sites. Garry's sister Maureen wrote her reminiscences of four years in the camps, which were a happy time for children [35]. They were in five different camps on the east coast of the South Island, moving as railway construction advanced², ending up at Ōmihi. The PWD camps were sometimes referred to as a "Poor Kids' Paradise" and children were well educated, at least to primary level. In December 1941, life changed, as George Tee was assigned to the crew extending Nandi³ airfield in Fiji for the USAAF. Garry, his sister, and his mother went to live close to relatives in Auckland.

Garry excelled at school, and from the age of 11 he attended high school at Seddon Memorial Technical College (the senior part of which is now Auckland University of Technology). In 1948 he was the top student in the New Zealand University Junior Scholarship

examinations, so he started university at the age of 16 in early 1949⁴. An anecdote from his fellow student and friend Ron Keam [10] is worth reporting *verbatim*:

"In my second or third year I was approached by a police officer (whom I knew) and he informed me that the police were anxious about Garry. Seemingly he had communist leanings. The police were apparently concerned that he was propagating undesirable ideas and requested that I report to them on such activities. After some discussion with Garry I came to the conclusion that his views were innocuous, and I simply ignored the police request."

Regardless, by 1954 Garry had an M.Sc. in mathematics from Auckland University College (now the University of Auckland). Then, wrote Bob Doran [10], "Not sure what career to follow, he hitch-hiked around the entirety of New Zealand. He then did the same thing with Australia, finally settling down for a couple of years in Broome, processing real-world seismic data using hand-cranked equipment." Broome is 2000 km north of Perth, and in 1957 Garry was employed as a "Computer" by Geophysical Services International, whose Australian headquarters was in Perth [10].

Next, in 1958 he joined the English Electric Company at Whetstone, near Leicester, England, where he programmed mathematical problems on a DEUCE computer. In 1959-1963, he was also associated in some way with Vaughan College, Leicester, which was in effect the extramural department of Leicester University. Whether he was a teacher or a student there is unknown, but he was well qualified to teach. The subjects

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¹Then known as "Wanganui".

²The railway north from Christchurch was started in 1870 but not completed until 1945.

³Now known as "Nadi".

⁴The New Zealand academic year typically starts in early March.

he noted on an empty folder labeled “Vaughan College Lectures” were Thermo-Elasticity, Mathematical Logic, Probability, Infinity, Number Theory, and Groups⁵.

He started his academic career in mathematics at the University of Lancaster in 1964, teaching numerical analysis. He fitted in an extended visit to the Computer Science Department at Stanford in 1965. He then moved to the University of Auckland in 1968 as a Senior Lecturer, teaching mathematics and computer science. In 1971, he started work for a doctorate in numerical analysis under Richard Bellman at the University of Southern California, but this collapsed due to Bellman’s fatal illness [9], and Garry resumed his position in Auckland until retirement [4], [3].

His lifetime publication record is impressive, principally extending from 1960 until 2003 [33], with occasional publications as late as 2015. Apart from his “day job” in numerical analysis, he was a notable historian of mathematics, statistics, computing and science in general. Among his publications, one can see the mark of a true polymath: “Hildebrand Bowman in New Zealand” (1974), “Another link between Marx and Darwin” (1979), and “Evidence for the Chinese origin of the jaguar motif in Chavín art” (1980), to take but three examples. He was one of the first historians of computing in New Zealand [30], along with Colin Beardon [6]. He retired from the University of Auckland at the end of January 1998 [1], but continued as an honorary staff member until 2018. He was awarded a well-deserved Honorary Doctorate by Auckland University of Technology in 2003.

This article mainly focuses on Garry’s work in the 1980s. When he died on February 18, 2024, he left behind many boxes of papers, including box No. 21, labeled simply “Babbage”. It mainly contained six lever-arch ring binders, marked “Babbage 1” through “Babbage 6”. They principally cover the 1980s, but with some documents from the 1990s and a handful after 1999. At least half the contents are letters to and from other scholars or individuals such as Babbage relatives, with a total of more than 200 correspondents. The earlier outgoing letters are either scrawled drafts or (before 1983) bright blue carbon copies that seem to have come from Garry’s own portable typewriter; often these are on the back of each other or even on the back of incoming letters, as if Garry was economising paper in World War II style. After 1983, he mainly kept photocopies of his letters. Only towards the end of the files are there a few printed copies of emails.

⁵His home address noted on that folder was 1.7 km from the present author’s family home.



FIGURE 1. Garry Tee in the home of Neville Francis Babbage in 1985. Courtesy of the Tee family.

Other contents include off-prints and drafts of papers, handwritten research notes, and photocopies of significant archive documents. At a rough estimate, there are more than 1000 documents in total.

Although he certainly performed his academic duties during the 1980s, it is clear that Charles Babbage and anything to do with Babbage (or with Augusta Ada Lovelace) was Garry’s great enthusiasm. It is unknown how he first became interested in Babbage, but given the time he spent in England from 1958, it is highly likely that he read Bowden’s “Faster than Thought” [8], first published in 1953, whose frontispiece was a drawing of Lady Lovelace, whose first chapter discussed Babbage’s and Lovelace’s work at some length, and which had Lovelace’s text as an Appendix. At some point before late 1980, Garry became aware that the Babbage family had New Zealand connections.

Unsurprisingly, Garry was also interested in other 19th Century mathematicians, including Charles Dodgson, one of whose works in particular aroused his interest, and provides the structure for the following description of his search for the Babbage relics and relatives down under.

BIT THE FIRST: The Landing

The first written record of Garry’s Babbage hunt is a letter he sent on 30 October, 1980 to a Mrs Cullen in Christchurch, New Zealand, the aunt of an A. E. Babbage, enquiring if she knew anything about Charles Babbage (she did not). Over the following months and years, he telephoned or wrote to at least 30 people named Babbage in New Zealand and Australia asking essentially the same questions: are you descended from Charles Babbage and do you have any relevant documents or relics? He mainly found these people by consulting telephone directories. Of course, many of

these contacts led nowhere, but a few of them struck gold.

In parallel, on February 9, 1981 he wrote to the Director of the Whanganui Museum that a Babbage descendant in Auckland “tells me that he remembers seeing... at the farm of his grandfather near Wanganui [sic], some notebooks of engineering drawings by Charles Babbage and many cog-wheels & other parts.” The museum’s archivist A. S. R. Parker replied two days later that “Yes, we do have quite a large collection of Babbage papers, though no mechanical parts.” As a teaser, he enclosed a photostat of the manuscript draft of Babbage’s “advertisement he presumably inserted in the Times of 1835.” This was a breakthrough both for Garry and for the museum. He rapidly arranged to spend a weekend in Whanganui (his first visit since 1937), especially when told that the papers included the manuscript of Babbage’s “Passages from the Life of a Philosopher” published in 1864. He laid hands on the papers on March 6, 1981. Somehow he persuaded the local newspaper to let him use their photocopier overnight, copying 414 pages, and paying \$41.40NZ for the privilege. The farmer in question, who donated the papers to the museum, was Charles Whitmore Babbage, the eldest son of Benjamin Herschel Babbage, in turn the eldest son of Charles Babbage. Garry moved fast, informing the Directors of the Charles Babbage Institute in Minneapolis and of the Science Museum in London on March 12 that he was donating copies to them, and that he would announce his discoveries at the Second Australasian Mathematics Convention in Sydney in May 1981.

More was to come very soon. On March 13, Garry heard from H. G. Babbage, a grandson of Charles Whitmore Babbage (and therefore a great-great-great-grandson of Charles Babbage), who lived in Glendowie, Auckland. Charles Whitmore’s sons farmed in the Kawhia area and had “a lot of the original tools and wheels”. Following the breadcrumbs, he soon contacted Jean Babbage, widow of Alfred Alistair Babbage (1904-1978, another grandson of Charles Whitmore), who also lived in Glendowie. He soon visited her, and on April 2, wrote to her enthusiastically about having examined “the fragment of Babbage’s calculating engine” (actually a fragment of the Difference Engine) “last Sunday,” i.e., March 29, 1981. The fragment was one of those assembled in 1879 by Henry Prevost Babbage, and handed down within the family. Cutting a long story short, this is the fragment now in the Powerhouse Museum in Sydney (<https://collection.powerhouse.com.au/object/150269>) after a later generation of the Babbage family in Auckland decided to auction it. It sold at Christie’s in

London on October 4, 1995 for £176,750.

These two discoveries, which Garry did indeed announce at the May meeting and later published [26], laid the groundwork for years of scholarship, reflected in further publications [25], [18], [28], [31], [34], [32] and numerous invited lectures.

Thus, March 1981 was Garry’s intellectual *mensis mirabilis*. Unfortunately, 1981 was about to become his bodlii *annus horribilis*.

BIT THE SECOND: The Surgeon’s Speech

By the end of March Garry was in communication with numerous historians, such as Roger Stuewer (Acting Director of the Charles Babbage Institute) and Professor Brian Randell (the doyen of computing history in the UK, whom Garry had known when they both worked for English Electric at Whetstone). The latter published “A Mysterious Advertisement” [19] as a result. Garry also contacted more prominent Babbage descendants, notably Dr Neville Francis Babbage and Rev. Stuart Barton Babbage, both in the Sydney area. He met both these Babbages while in Sydney for the Mathematics Convention and remained in touch with them for years. Neville Francis gave him a copy of a printed Babbage family tree covering 1633-1973, with handwritten additions up to 1979. After the Convention, Garry wrote to Neville Francis that his lecture on May 13, 1981 about his Babbage discoveries was “very successful” and the audience was “astonished & delighted.” Quite incidentally, while in Sydney, Garry forged a link between Trevor Pearcey, designer of the CSIRAC computer, and the *Annals of the History of Computing*, where Pearcey later published an article. At the same time, Garry was arranging a sabbatical leave at University College London for 1982.

However, things soon went badly wrong. On July 6, Garry wrote to Brian Randell of “illness” and “if I am not able to resume work.” He had arranged for a colleague to send his Babbage research material to Randell “if I’m not able to continue.” He asked Randell to handle publication of the draft that became [26] “since I’m about to undergo brain surgery.” He had been diagnosed with a significant acoustic neuroma, and the surgeon made it clear that there was no choice but to operate, which happened at the end of July. One of Garry’s scribbled draft letters describes his ordeal: a 12 hour operation to remove the brain tumour, plus an extra 4 hours to reconnect facial nerves, and 39 days in intensive care. But after convalescing at his parents’ home in Tairua [10], by September 20 he was again writing letters to other scholars and sundry Babbages,

and planning his sabbatical.

In January 1982, he received an invitation to speak at a History of Science conference in Wellington in 1983. On February 1, 1982 he left for London. By February 14, he was sending letters from the Department of Civil & Municipal Engineering at UCL. In theory, he was working on numerical analysis applications during his sabbatical; in practice, he was working on Babbage, in particular transcribing numerous documents held by the British Library.

Coda: In July 1984, Dr Christopher J. Feltham, a radiologist in Nelson preparing a talk about computing and radiology, wrote asking for historical information. Garry sent a long and helpful reply, noting that his brain tumour three years earlier had been detected by a CAT scan. Feltham's thank you letter reveals that Garry's presenting symptom had been tinnitus.

BIT THE THIRD: The Speaker's Tale

Throughout his sabbatical in the UK, Garry's rate of letter writing never seemed to let up. He was now communicating with essentially every active Babbage scholar in the world. He even made use of his knowledge of Russian to read an article on Babbage published in 1976 by A. K. Petrenko and O. L. Petrenko. One of his frequent correspondents was Maurice Wilkes, who had a strong interest in Babbage. Garry received speaking invitations from various UK universities, ranging from London to Glasgow, and a prestigious invitation from the inventor of packet switching Donald Davies, at the National Physical Laboratory. NPL had decided to host a one-day conference on the work of Babbage in December 1982, and Garry was one of the four invited speakers, along with Anthony Hyman, J.M. Dubbey, and Allan G. Bromley. About 70 attendees included Basil de Ferranti, Lord Bowden, Martin Campbell-Kelly, Mary Croarken, T. H. Flowers, S. H. Lavington, B. Randell, and J. H. Wilkinson.

In the last few months of 1982, Garry started planning his trip back to New Zealand. His intention was to fly to the East Coast of the USA in early January, then work his way across the continent giving lectures, and fly back to Auckland from California. During October 1982, he spammed multiple American contacts by airmail, soliciting speaking opportunities. On offer were talks about "Babbage, or about Comrie & Aitken, or about the pioneering women mathematicians." After a month at Newcastle University with Brian Randell, he spent most of January 1983 slowly crossing the USA with numerous lecture stops, almost one per week day. His main talk was about his Babbage discoveries, but he also spoke about L. J. Comrie and A. C. Aitken.

He started by lecturing at MIT on January 4, 1983 at 4 p.m., at the University of Connecticut on January 5, and at IBM Research, Yorktown Heights on January 6. Later stops included the University of Pennsylvania, University of Delaware, University of New Orleans, University of Michigan, University of Minnesota and the Charles Babbage Institute, Humboldt State University in Arcata, California, UC Santa Barbara (where he spoke about Comrie and Aitken), UC Berkeley, and UC Irvine.

Garry returned to the University of Auckland in February 1983. In a letter to Alfred Van Sinderen dated March 8, 1983, he says "I gave the last lecture at University of California Irvine on 31 January & on 1 February I staggered onto a plane leaving LA for Auckland 3¼ hours before my 1-year ticket expired." Almost immediately, he was off to speak at the History of Science conference in Wellington; his contribution was later published by the Royal Society of New Zealand [28].

BIT THE FOURTH: The Hunting

Elsie Locke (1912-2001) was a well-known figure in New Zealand in the 1980s. She was a feminist, pacifist and author; she and her husband were communists. According to Wikipedia, they moved into a tiny cottage at 392 Oxford Terrace, Christchurch in 1944, and it was from that address that she wrote to Garry out of the blue on January 7, 1982. She had seen a brief article by Garry about his Babbage discoveries in the New Zealand *Archifacts* magazine [23], and told Garry about her 1978 book "The Gaoler," which tells the story of Henry Monson, a virtually destitute builder from the UK, who was mentored in London by Charles Babbage. Monson was appointed as the first official gaoler in Dunedin by the Governor of New Zealand, Sir George Grey, after Babbage requested Grey to find him a job. Babbage had also mentored Grey as a young man.

Garry, having flirted with communism as a student, must have been flattered to hear from Locke. After cordial exchanges of mail while Garry was in London, they conceived the idea of an article "The Governor, the Gaoler and the Genius" which complemented Locke's book and filled in some gaps, based on Garry's archive research. The article was drafted by the end of July 1982. Then came the hunt for a publisher, which proved not to be so easy. Their original target was the *NZ Listener*, which rejected it at the end of August. Locke then suggested a small literary magazine called *COMMENT*, which accepted it at the end of November. But nothing happened until Locke discovered in

October 1983 that *COMMENT* was defunct. The hunt went on. Garry immediately offered it to the University of Auckland historian Judith Binney for the *NZ Journal of History* and, when she turned it down, to *New Outlook* magazine which finally rejected it in March 1984. *Landfall* magazine rejected it in early May. The next try was the New Zealand Federation of Historical Societies, which quickly accepted it. The hunt ended when it was published in August 1984 [18].

BIT THE FIFTH: The Biography Lessons

Garry was of course not the only scholar interested in Babbage and Ada Lovelace in the 1980s. Anthony Hyman was working on his biography of Babbage, which was published to critical acclaim in 1982, and Garry was in contact with him for several years. Doris Moore had published a biography of Lovelace in 1977, but it paid little heed to her mathematical achievements. In 1981, Garry published an article about pioneering women mathematicians, including Lovelace [24], whose 1983 reprint [27] is more readily accessible. In it he does not hesitate to express his opinion of Lady Byron (also a would-be mathematician) as an “aristocratic moral monstrosity” and “dreadful mother”, but he also brings out very clearly Ada Lovelace’s achievements, giving full credit to Bowden for rescuing them from oblivion in “Faster than Thought” [8]⁶. Notably, he took care to reproduce Babbage’s rather unclear statement that the work was her own “except indeed, that relating to the numbers of Bernouilli [sic] which I had offered to do to save Lady Lovelace the trouble. This she sent back to me for an amendment, having detected a grave mistake which I had made in the process.” Scholars still argue whether Babbage or Lovelace should get the credit for the coding sheet for calculating Bernoulli numbers; Garry wisely did not tackle this sterile debate. In any case, Lovelace also provided coding sheets for several other problems. Garry correctly characterized her work as a scientific triumph. This article led to contact with three aspiring Lovelace biographers, Joan Baum (in New York), Rachel Garden (in Wales), and Dorothy Stein (in Hawaii).

On May 7, 1982, Garry first wrote to Stein, who was in India at that time. He had heard about her planned biography from the historian Allan Bromley. He met Stein in London the next month, and they exchanged letters and documents for years, before

and after her Lovelace biography was published in 1985 [21]. Garry had direct influence on her appendix “Unnatural Feelings Mental & Bodily”; he sent very erudite and detailed comments to Stein on December 10, 1984. His many interests already included medical history [29].

Originally trained as a physicist, Stein had programming experience in the 1950s, but switched to child psychology in the 1960s. She came to the conclusion that Lovelace was a poor mathematician, giving the example of her conceptual difficulty with substituting a specific expression for $f(x)$ to test a proposition about $f(x)$. However, Stein was writing from the viewpoint of someone who had undoubtedly studied mathematical analysis as a physics major in the mid twentieth century; Lovelace was a home-schooled aristocrat at a time when modern analysis was in its infancy (Bernhard Riemann was still in high school). More relevantly, Lovelace missed an obvious typographical error when translating Menabrea’s notes about the Analytical Engine. Nevertheless, the letters that Stein quotes show that the work on the Bernoulli coding sheet was more collaborative than Babbage suggested in the quotation above – in fact, Lady Lovelace drew up the table (with difficulty) and Lord Lovelace inked it in for her. Of course, Babbage checked it before publication, and he was very prickly about the details of publication – as was Lovelace, who Stein quotes as describing Babbage as “one of the most impracticable, selfish, intemperate, persons one can have to do with.” There is no doubt that Babbage was the teacher and Lovelace was the student, but neither that nor Lovelace’s slips detract from her achievements.

In 1985, Anthony Hyman sent Garry a Christmas card containing his pocket review of Stein’s book: “frightful... inaccurate, and hysterically absurd.” A review by Velma and Harry Huskey was longer but equally negative [16]. Stein’s response (in a full-length draft entitled “Mythrepresenting Ada” that Garry received indirectly, and in her shorter published rebuttal [22]) was to castigate the Huskeys “complete ignorance ... of current standards of historical writing – and of review writing, for that matter.” Garry’s own review suggests politely that Stein probably underrated Ada’s mathematical ability. In any case, Stein had done the unthinkable: she attempted to knock Lady Lovelace off her pedestal as the first computer programmer. The Huskeys were particularly upset because they had been much involved in raising her onto the pedestal in the first place [15]. But the basis of Hyman’s and the Huskeys’ negative reviews is surely mainly due to Stein’s feminist analysis and her refusal to gild the lily. Apparently mentioning atheism, sex, adultery

⁶My second-hand copy of “Faster than Thought” is stamped “withdrawn from UCL library”; perhaps it is the one that Garry consulted during his sabbatical in 1982.

and ovarian cancer was particularly offensive to the Huskeys.

On February 19, 1984 Dr Rachel Garden (née Wallace) wrote to Garry from an address in rural Wales, saying that she had “recently been asked to write a short book on Ada Lovelace... The publisher would be Virago.” Rachel Wallace had been an undergraduate student of Garry’s in Auckland, but she now described herself as a “math-logician-cum-philosopher.” She had recently published a book on the interpretation of quantum theory [14] which has been widely read, and cited as recently as 2018 [20]. Her grandmother was Amabel Strachey of the famous Strachey family, and her address in Wales was associated with her grandfather, the prolific architect Clough Williams-Ellis. Virago, being principally a feminist publishing house, would have been a very natural home for a Lovelace biography by a Strachey descendant. For several years, Garry sent information to Garden, encouraged her to contact other scholars, and told others about her. She spent some time in Auckland later in the 1980s, and of course they met. However, she and Virago eventually decided that there was no space in the market for another biography at that time [13]. Today, she is a Trustee of the Clough Williams-Ellis Foundation.

The third biographer who found himself, to some extent, under Garry’s wing was Joan Baum, a professor of English at the City University of New York. On May 17, 1984 she wrote (in her words) “a fan letter and a fishing expedition,” seeking information for her planned study of Ada Lovelace. Garry replied on June 11 with a four page letter plus various attachments, and they remained in regular contact for several years. Her book, when published in 1986 [5], was much less contentious than Stein’s, and cited Garry’s work in several places. But Garry could be peevish – he filed a photocopy of one illustration showing a letter to Lovelace held by the Beinecke Library at Yale with the comment “No acknowledgement here to me!” – presumably he had told Baum about it. Regardless, Baum’s book, though it hid none of the difficulties of Lovelace’s life, did not attempt to decry her achievements.

BIT THE SIXTH: The Naming

In New Zealand in the 1980s, international phone calls were still prohibitively expensive, international travel was rare, and the first Internet connection only arrived in 1989. Airmail was the best bet. Garry had no hesitancy in writing to the famous or well-known, and quite often they replied very helpfully. If he had been a name-dropper, or an autograph hunter, he would have had

plentiful ammunition (see Figure 2). In his Babbage file are letters to or from many “names” including at least 28 Babbages, plus Andrew D. Booth, Arthur C. Clarke, Donald W. Davies, Peter T. Kirstein, Benoit B. Mandelbrot, Roger Needham, Donald H. Sadler, and Maurice V. Wilkes. (I have intentionally excluded historians of computing from this list. However, a letter to Paul A. Samet on October 31, 1982 quotes the historian Anthony Hyman saying that in about 1948 he heard Hartree say that “eventually there might be a need for as many as 10 electronic computers - in the world!”) Surprisingly, it seems Garry never wrote to the Huskeys despite their important paper [15]. His files also include copies of letters sent to third parties by Lord Bowden and John V. Atanasoff. His comment on the latter (writing to Herman Berg) was trenchant: “It [Atanasoff’s machine] had no form of if-statement; & accordingly it was a very advanced calculator but not a computer.”

His correspondence with Maurice Wilkes extended from 1981 to at least 1990, and they clearly had great mutual respect. Garry’s letter to Wilkes on December 9, 1981 suggests a much longer acquaintance, starting: “We last met ten years ago, when you addressed the New Zealand Computer Society in Auckland.” The letter was mainly to inform Wilkes of Garry’s Babbage discoveries, but strayed into other topics such as the the Meccano differential analyzer now exhibited at MOTAT, the Museum of Transport and Technology, in Auckland, and the false assertion (one of Garry’s very rare mistakes) that “totalisators were invented in New Zealand (by Eklund).” This mistake is corrected in [11]. Wilkes’s reply in January 1982 clarified some details about the Meccano differential analyzer. This was the start of a very friendly correspondence. One of Wilkes’s letters was handwritten from the Athenæum. Wilkes had a longstanding interest in Babbage; for example in May 1982 he sent photocopied records of Benjamin Herschel Babbage in South Australia in the 1850s, which he had acquired in 1972. Writing on Digital Equipment Corporation letterhead on Dec 7, 1982, Wilkes made polite remarks about Hartree and a rather rude one about a “Ferranti salesman” called Bowden. In February 1984, Garry sent him a biographical sketch of Benjamin Herschel Babbage that had been obscurely published in Australia in 1953.

On 30 January 1985, Wilkes wrote “Dear Garry, [May we not now address each other by first names?].” These were two rather old-fashioned letter writers, but on April 5, 1985, Wilkes wrote: “Is your department linked into any of the computer networks?” and gave his ARPANET and CSNET email addresses, to no avail. He also included a copy of his play “Pray, Mr

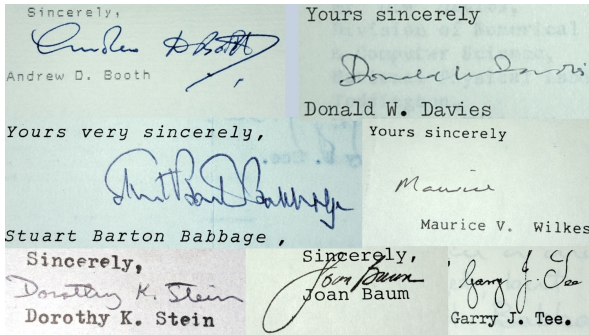


FIGURE 2. Autographs. Collage: B. E. Carpenter.

Babbage”, as first performed on December 10, 1982 at the Computer Museum (then in Boston). Garry quickly produced and directed a performance of the play as an academic seminar in Auckland on July 17, 1985. After several years at DEC in Massachusetts, Wilkes returned to Cambridge, working at Olivetti Research, but stayed in touch with Garry. They finally achieved email communication on June 26, 1989 when Wilkes wrote from *mvw%cam-ori.uucp@vuw.ac.nz* to *mat_mail@aukuni.ac.nz*. In 1990, Wilkes published an article about the revolution in the Cambridge University mathematics curriculum in which Babbage was instrumental [38], and sent Garry a personally inscribed off-print.

BIT THE SEVENTH: The Lost Sheep

Because of his prolific letter writing to upwards of 200 people, Garry became a sort of telephone exchange for those interested in Babbage studies. He was certainly not obsessed with fame or fortune, but his correspondents included at least two significantly wealthy people, John R. Payne and Alfred W. Van Sinderen. Payne, of Austin, Texas was the founder of the very successful FirstCash company, who wanted to acquire a collection of Babbage memorabilia, and Garry sent him much the same information as he sent to any academic contact, although he was actually dealing with a retired pawnbroker. Van Sinderen was Chairman of the Board, Southern New England Telephone, but also a genuine Babbage historian [36].

Garry also attracted the attention of a few people who were more of the nature of lost sheep. One of these was Stephen Skinner, who first contacted Garry in May 1980, identifying himself as “an amateur historian of ideas” in Wellington, primarily interested in Charles Darwin. Garry had written the script for a radio dramatization of Darwin’s visit to New Zealand, which was broadcast on the Radio NZ Concert Pro-

gramme at 9 p.m. on May 12, 1980, and Skinner’s letter arrived shortly after. Skinner moved to Barbados, and continued to write to Garry about Darwin, even though Garry was mainly interested in Babbage by then. Eventually Skinner decided that he wanted to do a Ph.D. on the philosophy of evolution at Cambridge, so in 1982 Garry sent a lukewarm recommendation for him to Peter Cathercole at Darwin College, Cambridge. At that point Skinner disappeared from the record, but it was typical of Garry’s gentlemanly good nature that he never showed any sign of annoyance at Skinner’s frequent letters.

Another frequent letter writer, clearly seeking reassurance and recognition, was Herman Berg (1948–2011), an independent scholar. His first letter to Garry, handwritten like all its successors, was sent on May 22, 1984 from his private address in Detroit. It was rather incoherent, including the absurd sentence “The letter from Babbage to Quetelet was generated in an informal post-publication review of an article Mr Van Sinderen wrote in the *Annals*.” This refers to Van Sinderen’s article [37] about the letter in question, based on a French translation of the original. On April 27, 1835, Charles Babbage wrote in English to Adolphe Quetelet, a Belgian mathematician, with what is still believed to be Babbage’s first written description of his Analytical Engine. On March 20, 1984 the Belgian Académie Royale sent a copy of the original letter from Quetelet’s archives to Herman Berg (along with a request for payment of 700 Belgian francs, about \$13US). Regardless of when Berg first found a catalog listing of the letter, he therefore did not have a copy of it before March 1984, long after Van Sinderen’s article was published.

Berg’s letter continues “Professor Galler [then editor of the *Annals of the History of Computing*] is irritated with [me] for having written to the author and the reviewers about my discovery.” Garry was left to infer from this cryptic text that Berg was claiming some kind of misconduct by the *Annals* – Berg had unearthed the original manuscript, which Van Sinderen had missed. Garry replied neutrally in June, but Berg was to write to him many times more. In early August, he sent various photocopies, including a very puzzled letter from John V. Atanasoff. Later, he sent a couple of picture postcards with unclear messages, and again Garry replied neutrally. In December 1984, Berg sent a strange note again complaining about Galler, to which Garry apparently did not reply.

In October 1985, Berg wrote again about his quarrel with the *Annals*, saying explicitly that (in Berg’s opinion) “The whole idea was to keep my name out of print for as long as possible.” More letters followed in quick

succession, still all hand-written and breathless in tone. Garry replied at a slower and calmer rate. In February 1986, Berg sent another four picture postcards from Detroit. The incoherent barrage continued; Berg sent a “jumble” (his word) of photocopies in June 1987 including letters to Berg from Joan Baum and Dorothy Stein. Eventually, on November 11, 1987 Garry wrote to Berg agreeing to cooperate on a paper about Babbage’s letter for the *Annals*. Garry typed “In the Introduction, I’ll take care to be tactful towards ~~Erwin Tomash~~ van Sinderen.” (The correction is handwritten.) A letter to Berg from the new *Annals* editor John Lee, copied to Garry, and dated December 4, 1987, welcomed Garry’s agreement to collaborate “in bringing to the attention of our readers your discovery of the Babbage-Quetelet correspondence.” But on December 23, 1991, Garry wrote to Herman Berg apologizing that he had “not been able to proceed with our proposed joint paper” with no further explanation.

Berg finally described his discovery of Babbage’s original letter to Quetelet in the *Annals* the following year [7]. However, that article was ghost-written by Michael Marcotty, a member of the *Annals* editorial board who also lived in Detroit. It is unclear how much Garry knew of the full, and disputed, background to this saga; the letters and postcards from Berg are a model of obscurity. Nevertheless, the correspondence in Garry’s files completely accords with the painstaking description of the facts by John Lee in [17].

BIT THE EIGHTH: The Vanishing

Garry was a prolific writer, often published, but some of his work simply vanished into his files. At one point he planned a book about Leslie Comrie; on sabbatical in London in 1982, he intended to “write a book about the Babbage material which I’ve found” (letter to Alfred Van Sinderen on January 30, 1982). Neither of these intentions was realised.

His longest running failure concerned Lewis Carroll’s comic masterpiece “The Hunting of the Snark” [12]. Two of the crew members in the hunt were the Butcher and the Beaver, and it was these who caught Garry’s interest.

On the 11th of June, 1984 he wrote a long letter to Joan Baum, in which he said that he had read an article in “Computer World (c1976)” suggesting that Carroll’s Butcher alluded to Charles Babbage, and the Beaver to Augusta Ada Lovelace. As it happens, the entire run of “Computerworld” (*sic*, no space) has been digitized and is searchable, but I could not find this article. In any case, the theory is that the Beaver, who is referred to entirely as “it”, must be female because



FIGURE 3. The Butcher teaches the Beaver, by Henry Holiday, 1876. Courtesy Wikimedia Commons (public domain).

it makes lace, and that the Butcher sharpens his axe, as Babbage improved his calculating machines. Most significantly, in one of the original illustrations approved by Lewis Carroll (Figure 3), the Butcher gives the Beaver a lesson in arithmetic, and in the background are blaring street musicians and barrel-organ players; Babbage is well known to have had a particular hatred for street music. The Beaver is following the lesson in a distinctly subservient pose (perhaps not the demeanour we would expect from the aristocratic and ambitious Lady Lovelace).

Garry claimed as “the strongest reference to Babbage” the emphasis in the poem on the phrase “What I tell you three times is true,” because (he asserted) the 1864 Act of Parliament “Better Regulation of Street Music in the Metropolis,” known sometimes as Babbage’s Bill, but more accurately as Bass’s Bill after the MP who introduced it, laid down that a street musician told to move on *three times* must do so, or be fined. Unfortunately for the theory, the law says nothing of the kind:

“And be it enacted, That it shall be lawful for any Householder within the Metropolitan Police District, personally, or by his Servant, or by any Police Constable, to require any Street Musician to depart from the Neighbourhood of the House of such Householder on account of the Illness of any Inmate of such House, or on account of the Interruption of the ordinary Occupations or Pursuits of any Inmate of such House, or for other reasonable or sufficient Cause, and every Person who shall sound or play upon any Musical Instrument in any Thoroughfare near any House after being so required to depart shall be liable to a Penalty not more than Forty Shillings.”

Also, the reader is invited to study the Butcher's face in Figure 3, and compare it with any image of Babbage; there is essentially no resemblance. It seems likely that if Carroll had consciously modeled the Butcher on Babbage, he would have communicated this to his illustrator, Henry Holiday. It is a matter of record that Carroll, in the guise of the mathematician Rev. Charles Dodgson, visited Babbage in 1867, naively hoping to buy a calculating machine [2], so he certainly knew what Babbage looked like only a few years before the Snark was published in 1876.

Joan Baum, perhaps wisely, relegated Garry's speculation about the Snark to an appendix of her biography [5] of Ada Lovelace, who had of course died when Carroll was only 20, more than two decades before he wrote the “Snark.” Baum, supported by an opinion from Martin Gardner, dismissed the whole theory.

Garry did not give in so easily. Nineteen years after his letter to Baum, on 19th September, 2003, he submitted a draft entitled “Charles Babbage and the Snark” to *The New Scientist*, detailing his theory more or less as he did in 1984, but without the faulty “What I tell you three times is true” argument. Sadly, the editor quickly and politely declined the article, which then vanished into Garry's archive.

CONCLUSION

Like any historian, Garry Tee made occasional mistakes. Two noted above are his errors about totalisators and about “Babbage's Law.” But these are as nothing compared to his persistence in the search for facts and evidence and his ability to root around in nineteenth century archives and the memories of twentieth century descendants, to communicate with other scholars and aspiring scholars, and to read and send letters, drafts, off-prints, and yet more letters.

The 1980s formed the last decade in which this rather ancient method of historical research was the only way to do business, at least in the computing area. The result was an impressive record of valuable publications about Charles Babbage [18], [23], [25], [26], [28], [31], [32], [34].

Garry continued speaking about Babbage for many years. The last item in his archive box is a letter of thanks to him for speaking in August 2014 to a University of the Third Age audience including a school friend of Wendy Babbage, yet another descendant.

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