

AccessionIndex: TCD-SCSS-V.20170225.001

Accession Date: 25-Feb-2017

Accession By: Prof.Brian Randell

Object name: The origins of Digital Computers

Vintage: c.1973

Synopsis: Randell, B.(ed), selected papers, signed 1st edition, Springer-Verlag, Berlin, Heidelberg, N.Y.

Description:

Prof.Brian Randell has for many years been prominent in the history of digital computing, especially relating to the period that started with Charles Babbage's work in the 1830s, up to about 1950 when the first Turing-complete electronic digital computers became operational. He was for a number of years a Trustee of the *Computer Museum* [3], and was a founder-member of the Editorial Board of the *Annals of the History of Computing* [4].

His interest in the history of computing was stimulated in the early 1970s while investigating Babbage and Lovelace, calculating machines and the prehistory of computing for an inaugural lecture. At that time the most obvious and accessible reference to consult about calculating machines was Baxandall's *Calculating Machines and Instruments: Catalogue of Collections in the Science Museum* [5]. The second most obvious was the *Napier Centenary Handbook*, [6] which he found had a chapter on Analytical Engines by Percy Ludgate, a name that was unfamiliar, which ended with the paragraph which led to Ludgate's 1909 article [7].

In 1971 Randell published a paper documenting his research into the life and work of Ludgate [8], a subject that he later returned to in [9][10][11][12][13]. Whilst first investigating Ludgate's work, he started to amass material on other early computer developments, which led to his editing a book *The Origins of Digital Computers: Selected Papers* [2]. During the preparation of this book he discovered that Alan Turing had been involved in a secret effort to build a computer in Britain during World War 2 [17] for breaking enemy codes. This highly secret activity was partly declassified in 1976, and he obtained permission to investigate the Colossus wartime code-breaking machines, leading to his remarkable and famous lecture [18] to an international research conference on the history of computing [14], well described by an audience member, Bob Bemer [16], highlighted again in 2013 by Mark Ward for the BBC [15] and in a very engaging presentation by Randell himself in front of the rebuilt Colossus at TNMOC in Bletchley Park in 2013 [19]. See also [22][23][24][25][26][27][28].

Many thanks to Prof.Randell for donating this item (a 1st edition signed by him) to this Collection. The 2nd and 3rd editions are also held in this Collection. The 3rd edition was significantly updated, e.g. with information about Bush and Colossus, and had a greatly enlarged bibliography. See the documents in the related folder in this catalog.

The homepage for this catalog is at: <https://www.scss.tcd.ie/SCSSTreasuresCatalog/>
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Some of the items below are elsewhere in the Literature category of this catalog, but are listed here for convenience.

Accession Index	Object with Identification
TCD-SCSS-V.20170225.001	Randell, B.(ed), The origins of Digital Computers, selected papers, signed 1st edition, Springer-Verlag, Berlin, Heidelberg, N.Y., 1973.
TCD-SCSS-V.20121208.065	Randell, B.(ed), The origins of Digital Computers, selected papers, 2nd edition, Springer-Verlag, Berlin, Heidelberg, N.Y., 1975.
TCD-SCSS-V.20121208.066	Randell, B.(ed), The origins of Digital Computers, selected papers, 3rd edition, Springer-Verlag, Berlin, Heidelberg, N.Y., 1982.
TCD-SCSS-V.20121208.039	Colossus 1943-1996, Sale, T., Baldwin, Shropshire, 2000.
TCD-SCSS-V.20121208.901	Colossus: The Secrets of Bletchley Park's Codebreaking Computers, B. Jack Copeland and others, Oxford University Press, 2006.
TCD-SCSS-V.20230801.001	Colossus: Bletchley Park's Last Secret, Paul Gannon, ISBN: 978-1843543305, Atlantic Books, 2006
TCD-SCSS-V.20121208.903	Codebreakers: The inside story of Bletchley Park, Sir Francis Harry Hinsley and Alan Stripp, Oxford University Press, 2002
TCD-SCSS-V.20230801.002	Lorenz: Breaking Hitler's Top Secret Code at Bletchley Park, Jerry Roberts, ISBN: 978-0750978859, The History Press, first Edition, 2017.
TCD-SCSS-V.20121208.367	Enigma and its Achilles heel, Skillen, H., Skillen: Middlesex, 1992.
TCD-SCSS-V.20121208.672	Enigma - Codebreaking and the Second World War, Hoare, O. (ed), PRO: London, n.d., 2002.
TCD-SCSS-V.20121208.904	Enigma: The Battle for the Code, Hugh Sebag-Montefiore, John Wiley & Sons Inc., 2001.
TCD-SCSS-V.20121208.613	Alan Turing - The Enigma of Intelligence, Hodges, A., Unwin: London, 1985.
TCD-SCSS-V.20121208.041	The Turing Option, Harrison, H. & Minsky, M., Warner, N.Y., 1992.
TCD-SCSS-V.20121208.545	Turing's Man - Western Culture in the Computer Age, Bolter, J.D., Penguin: Middlesex, 1984.

References:

1. Wikipedia, *Brian Randell*, see:
https://en.wikipedia.org/wiki/Brian_Randell
Last viewed 25-Feb-2017.
2. Randell, B. (Ed.), *The origins of Digital Computers: selected papers*, 1st edition, Springer-Verlag, Heidelberg, 1973.
3. Wikipedia, *The Computer Museum, Boston*, see:
http://en.wikipedia.org/wiki/The_Computer_Museum,_Boston
Last viewed 25-Feb-2017.
4. IEEE Computer Society, *Annals of the History of Computing*, IEEE, see:
<http://www.computer.org/annals/>
Last viewed 25-Feb-2017.
5. Baxandall, D., *Calculating machines and instruments: Catalogue of the Collection in the Science Museum*, Science Museum, London, 1926.
6. E.M.Horsburgh (Ed.), *Handbook of the Napier Tercentenary Celebration or modern instruments and methods of calculation*, 1914, see:
<https://treasures.scss.tcd.ie/literature/TCD-SCSS-V.20170221.001/TCD-SCSS-V.20170221.001.pdf>
Last viewed 24-Jan-2017.
7. Percy E.Ludgate, *On a Proposed Analytical Machine*, Scientific Proceedings of the Royal Dublin Society, Vol.12, No.9, pp.77–91, 28-Apr-1909, see:
<https://treasures.scss.tcd.ie/literature/TCD-SCSS-V.20121208.873/TCD-SCSS-V.20121208.873.pdf>
Also: <http://www.fano.co.uk/ludgate/paper.html>
Last viewed 5-Jan-2017.
8. Brian Randell, *Ludgate's analytical machine of 1909*, The Computer Journal, Vol.14 (3), pp.317–326, 1971, see:
<http://homepages.cs.ncl.ac.uk/brian.randell/Papers-Articles/390.pdf>
Last viewed 23-Jan-2017.
9. Brian Randell, *From analytical engine to electronic digital computer: The contributions of Ludgate, Torres, and Bush*, IEEE Annals of the History of Computing . Vol.4 (4), pp.327–341, 1982, see:
<http://homepages.cs.ncl.ac.uk/brian.randell/Papers-Articles/398.pdf>
Last viewed 23-Jan-2017.
10. Brian Coghlan, Brian Randell, Paul Hockie, Trish Gonzalez, David McQuillan, Reddy O'Regan, *Investigating the Work and Life of Percy Ludgate*, IEEE Annals of the History of Computing, Vol.43, No.1, pp.19-37, 2021, see:
<https://www.scss.tcd.ie/SCSSTreasuresCatalog/literature/TCD-SCSS-V.20210507.001/TCD-SCSS-V.20210507.001.pdf>
Last viewed 30-Jul-2023.

11. Brian Coghlan Brian Randell, Paul Hockie, Trish Gonzalez, David McQuillan, Reddy O'Regan, *Percy Ludgate (1883-1922), Ireland's First Computer Designer*, Proceedings of the Royal Irish Academy: Archaeology, Culture, History, Literature, 121C, pp.303-332, 2021, see:
<https://www.scss.tcd.ie/SCSSTreasuresCatalog/literature/TCD-SCSS-V.20210921.001/TCD-SCSS-V.20210921.001.pdf>
Last viewed 30-Jul-2023.
12. Brian Coghlan and Brian Randell (eds.), *Percy Ludgate (1883-1922): Ireland's First Computer Designer*, The John Gabriel Byrne Computer Science Collection, ISBN 9781911566298, (2022) 246 pp., see:
<https://www.scss.tcd.ie/SCSSTreasuresCatalog/literature/TCD-SCSS-V.20221015.002/TCD-SCSS-V.20221015.002.pdf>
Last viewed 30-Jul-2023.
13. Brian Randell et al, *Unveiling of a Science Plaque to Percy Edwin Ludgate*, videos and photographs of the unveiling of the Ludgate Plaque, 2022, see:
<https://www.scss.tcd.ie/SCSSTreasuresCatalog/literature/TCD-SCSS-V.20221015.001/TCD-SCSS-V.20221015.001.pdf>
Last viewed 30-Jul-2023.
14. Harold M. Agnew, Stanislaw M. Ulam, N. Metropolis, M. Wells, *Proc. International Research Conference on the History of Computing*, Los Alamos, June 10-15 1976, see:
<http://www.worldcat.org/title/history-of-computing-1976-june-10-15-international-research-conference-los-alamos-nm-proceedings/oclc/77769089>
Last viewed 25-Feb-2017.
15. Bob Bemer, *Colossus -- World War II Computer*, see:
<https://treasures.scss.tcd.ie/literature/TCD-SCSS-V.20170225.001/BobBemer-Colossus-World-War-II-Computer-20170225.pdf>
Last viewed 17-Jan-2017.
16. Mark Ward, *The road to uncovering a wartime Colossus*, British Broadcasting Corporation (BBC), 11-Feb-2013, see:
<https://treasures.scss.tcd.ie/literature/TCD-SCSS-V.20170225.001/MarkWard-The-road-to-uncovering-a-wartime-Colossus-BBC-20130211.pdf>
Last viewed 17-Jan-2017.
17. Randell, B., *On Alan Turing and the Origins of Digital Computers*, In: Meltzer, B., Michie, D. (Eds.), *Machine Intelligence*, pp.3-20, Edinburgh University Press, Edinburgh, UK, 1972.
Also see: <https://treasures.scss.tcd.ie/literature/TCD-SCSS-V.20170225.001/AlanTuring-fromBrianRandell-20230729-2338.pdf>
Last viewed 30-Jul-2023.

18. Brian Randell, *The Colossus*, video of presentation, International Research Conference on the History of Computing, Los Alamos, June 1976, preserved by Computer History Museum, see:
<https://www.youtube.com/watch?v=WCeLTWPCEFI>
Last viewed 29-Jul-2023.
19. Brian Randell, *Uncovering Colossus*, TNMOC, Bletchley Park, see:
<https://www.tnmoc.org/uncovering-colossus>
Last viewed 29-Jul-2023.
20. Michael R. Williams, *The First Public Discussion of the Secret Colossus Project*, IEEE Annals of the History of Computing, Vol.40, No.1, pp.84-87, 2018, see:
<https://ieeexplore.ieee.org/stamp/stamp.jsp?tp=&arnumber=8356174>
Also: <https://treasures.scss.tcd.ie/literature/TCD-SCSS-V.20170225.001/The-First-Public-Discussion-of-the-Secret-Colossus-Project-MRWilliams-IEEE-08356174.pdf>
Last viewed 29-Jul-2023.
21. Mark Ward, *The road to uncovering a wartime Colossus*, British Broadcasting Corporation (BBC), 11-Feb-2013, see:
<https://treasures.scss.tcd.ie/literature/TCD-SCSS-V.20170225.001/MarkWard-The-road-to-uncovering-a-wartime-Colossus-BBC-20130211.pdf>
Last viewed 17-Jan-2017.
22. Brian Randell, *Los Alamos Participants Photo and Attendees List*, International Research Conference on the History of Computing, Los Alamos, June 1976, see:
<https://treasures.scss.tcd.ie/literature/TCD-SCSS-V.20170225.001/LosAlamosParticipantsPhoto-and-AttendeesList-fromBrianRandell-20230729-2338.pdf>
Last viewed 30-Jul-2023.
23. A.W.M. Coombs and Brian Randell, *Evening Session on COLOSSUS, with A.W.M. Coombs and B. Randell. (Taped by M. Williams)*, International Research Conference on the History of Computing, Los Alamos, June 1976, see PDF of the WORD transcript that was produced by Professor Randell's secretary, Betty Smith: <https://treasures.scss.tcd.ie/literature/TCD-SCSS-V.20170225.001/LosAlamosQandA-fromBrianRandell-20230730-1553.pdf>
Also with list of identifiable speakers added, plus header line with page numbers, preserved as X8216.2017 by The Computer History Museum, see:
<https://treasures.scss.tcd.ie/literature/TCD-SCSS-V.20170225.001/MWilliams-transcript-X8216-2017-fromBrianRandell-20230730-1553.pdf>
Last viewed 30-Jul-2023.
24. Will McQuhae, Stefano Ceccon, Nicola Hughes, Megan Lucero, Ben Macintyre, *Colossus*, graphic poster, The Times, see:
<https://treasures.scss.tcd.ie/literature/TCD-SCSS-V.20170225.001/ColossusTOPRINT7-fromBrianRandell-20230729-2338.pdf>
Last viewed 30-Jul-2023.

25. Brian Randell, *A Turing Enigma*, Technical Report No. CS-TR-1342, Newcastle University, 2012, see:
<https://treasures.scss.tcd.ie/literature/TCD-SCSS-V.20170225.001/TR1342-fromBrianRandell-20230729-2338.pdf>
Last viewed 30-Jul-2023.
26. Brian Randell, *The Development of Computers and their History*, IEEE Conference on the History of Computing, William and Mary College, Williamsburg, June 1997, see:
<https://treasures.scss.tcd.ie/literature/TCD-SCSS-V.20170225.001/Williamsburg1997-fromBrianRandell-20230729-2338.pdf>
Last viewed 30-Jul-2023.
27. William Aspray, *Interview with Brian Randell*, Charles Babbage Institute, 7th January 2021, see:
<https://treasures.scss.tcd.ie/literature/TCD-SCSS-V.20170225.001/Interview-with-BrianRandell-v4-fromBrianRandell-20230729-2338.pdf>
Last viewed 30-Jul-2023.
28. Jack Copeland, *Colossus: The First Large Scale Electronic Computer*, see:
<https://www.colossus-computer.com/colossus1.html>
Last viewed 22-Oct-2023.