Catalogue of the papers and correspondence of

Cedric Austen Bardell Smith

(1917-2002)

by Timothy E. Powell and Peter Harper NCUACS catalogue no. 155/5/07 C.A.B. Smith NCUACS 155/5/07

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GENERAL INTRODUCTION

PROVENANCE

The archive was received for cataloguing from Professor Sue Povey, Haldane Professor of Human Genetics, University College London, in May 2007.

OUTLINE OF THE CAREER OF CEDRIC AUSTEN BARDELL SMITH

Cedric Austen Bardell Smith was born in Leicester on 5 February 1917. He was educated at Wyggeston Boys School and University College School London. In 1935, having failed his Higher School Certificate, he was awarded an exhibition to Trinity College Cambridge. He graduated in the Mathematical Tripos, with a First in Part II and a Distinction in Part III. Following graduation Smith began postgraduate research, taking his Ph.D. in 1942.

While a student at Cambridge, Smith became close friends with three other mathematics students at Trinity College, R.L. Brooks, A.H. Stone and W.T. Tutte. Together they tackled a number of problems in the mathematical field of 'Combinatorics' and devised an imaginary mathematician, 'Blanche Descartes', under which name to publish their work. The group devised the 'squared square', a square that is divided into a number of smaller squares, no two of which are the same size. Publications under the name of 'Blanche Descartes' or 'F. de Carteblanche' continued to appear into the 1980s. The group also published more mainstream articles under their own names, the final one being R.L. Brooks, C.A.B. Smith, A.H. Stone and W.T. Tutte, 'Determinants and current flows in electric networks', *Discrete Math.* vol 100 (1992).

During the Second World War, as a Quaker, Smith joined the Friends Relief Service. He worked as a Porter at Addenbrooke's Hospital in Cambridge. Smith's pacifist views saw him develop an interest in peace studies. Among other responsibilities for the Society of Friends, he was a member of the Quaker Peace Studies Trust which established the chair of Peace Studies at the University of Bradford. Smith was also a founder member (and Chairman) of the Conflict Research Society.

In 1946 he was appointed Assistant Lecturer at the Galton Laboratory at University College London. He remained at UCL for the rest of his career, becoming successively Lecturer and Reader, before appointment as Weldon Professor of Biometrics in 1964. On his arrival at UCL Smith was influenced by J.B.S. Haldane, who introduced him to problems of linkage in human genetics in which field he was able to bring his skills as a statistician to bear. At the Galton Smith was to make many significant contributions to genetics. They were set out by N.E. Morton in his obituary in the International Statistical Institute Newsletter (volume 26, no. 2, 2002) as follows:

'Among Smith's achievements is the most powerful test for mimic loci, which produce what appears to be the same disease but are located in different chromosome regions and act in different ways. With James Renwick he pioneered sex-specific analysis based on the observation that chromosomes recombine at different points in male and female meiosis. Smith's 1953 paper introduced autozygosity mapping based on co-inheritance of a rare disease gene and close markers in relatives. The method lay fallow for thirty years, waiting for the molecular markers that have made it invaluable.

Smith's work was especially influential in the United States, which at the time he joined the Galton Laboratory had begun to develop the computers of which Charles Babbage had dreamed a century earlier. This stimulated applications that were unthinkable to Smith's predecessors in Britain, who dominated statistical genetics in the pre-computer era. Smith generously attributed the successes of the early computer period to his American competitors, who less characteristically gave him precedence. The truth is that the two currents were so intermixed and the rivalry so friendly as to baffle a historian of science. Smith's best ideas were incorporated into genetic mapping whereby hundreds of disease genes were localised as a necessary first step to sequencing, characterisation, and attempts to ameliorate their effects. This has been a precious tool for clinical genetics and the impetus for the Human Genome Project.

Although these contributions are best known, they are only a part of Smith's scholarship. He contributed to many of the classical topics in statistical genetics, including segregation ratios in family data, kinship, population structure, assortative mating, genetic correlation, and estimation of gene frequencies. The latter had wide application, but Smith's role has not been recognised by mathematicians. With Ceppellini and Siniscalco he introduced the method of gene counting in 1955. It gives maximum likelihood estimates that converge more slowly but more reliably than methods requiring an information matrix. This principle was presented at the Royal Statistical Society in 1976 by Dempster and others as the EM algorithm. Characteristically Smith contributed to the discussion without mentioning that he had priority of more than 20 years. The method is now used to advantage for many missing-data problems in which some of the observations are mixtures of discrete probabilities'.

Smith was elected a Fellow of the Royal Statistical Society in 1945. He was a member of the Genetical Society (serving as Treasurer), the Biometric Society (British Region), serving as President 1971-1972, and the International Statistical Institute. He died in 2002.

DESCRIPTION OF THE COLLECTION

The surviving archival record is scanty both in terms of extent and coverage. There is little documentation of Smith's genetics research (apart from published papers), correspondence with colleagues, membership of professional societies, attendance at conferences etc. It is somewhat fuller in its coverage of mathematical work, although even here it is weighted towards his less mainstream interests.

Section A, Biographical, includes obituaries and tributes. There is a copy of Smith's inaugural lecture as Weldon Professor, *Life, Form, and Number*. The largest component of this section is concerned with Smith's interests in peace studies, including his articles on the subject published in *The Friend*.

Section B, Publications, is the largest in the archive and makes up over half of the material. It includes a good, though not comprehensive, record of Smith's publications, nearly entirely in the form of offprints from 1934 to a posthumous paper published in 2003. There are a number of book reviews and the draft of an unpublished book on genetics. The section also presents a full record of Smith's co-editorship of *Colson News*, a small circulation journal devoted to reverse (or two-way) numbers, including editorial board meetings, correspondence and the master copies of all the issues.

Section C, Talks and lectures, is chiefly sets of transparencies to illustrate presentations. Most of these sets are undated, with no indication of occasion, audience or place of lecture. Furthermore many of the sets appear highly miscellaneous in content, and may include transparencies on astrology, linguistics and place-names alongside others on genetics and statistical analysis.

Section D, Blanche Descartes, documents some of the output of the mathematician(s) 'Blanche Descartes' and 'F. de Carteblanche', from 'The coloured cubes problem', *Eureka* 9 (1947) to two clerihews appearing in *Eureka* 46 (January 1986). An account of 'The story of Blanche Descartes' in the *Mathematical Gazette* (2003) is presented at A.5.

Section E, Research fragments, is slight. Virtually nothing of Smith's research as a geneticist and statistician remains and this section presents the three random survivals found in the Galton Laboratory. The two main components relate to computer calculations related to statistical studies by M. Gauquelin on astrology, and to the analysis of language.

Section F, Correspondence, is very small. It presents a few letters 1966-1993 in chronological order.

There is also an index of correspondents.

ACKNOWLEDGEMENTS

We are grateful to Professor Sue Povey for making the material available.

T.E. Powell Bath 2007 C.A.B. Smith NCUACS 155/5/07

SECTION A

BIOGRAPHICAL, A.1-A.19

A.1-A.6 OBITUARIES AND TRIBUTES A.7-A.10 AUTOBIOGRAPHICAL A.11-A.19 QUAKER INTERESTS

A.1-A.6 **OBITUARIES AND TRIBUTES** 2002-2003 A.1 'Cedric Smith 1917-2002' 2003 Photocopy compilation of biographical information on Smith. Includes email from W.T. Tutte; copies of key articles; obituary from the Royal Statistical Society (by A.W.F. Edwards, see A.3); and bibliography. This was compiled for the 'Day Conference Devoted to the Contributions of CAB Smith to Linkage Analysis', University College London, 6 April 2003 (see A.6). A.2 'View from the lab: a mastermind for a number of reasons' 2002 by Professor S. Jones (Daily Telegraph 23 January 2002). Print-out. A.3 Professor Cedric B. Smith, Pioneer in Statistical Genetics: 2002 Died January 10, 2002, at the age of 84' by N.E. Morton, Genetic Epidemiology vol 22 (2002); 'Professor C.A.B. Smith, 1917-2002', by A.W.F. Edwards, The Statistician vol 51 (2002); 'Cedric Smith (1917-2002)' by N.E. Morton, International Statistical Institute Newsletter vol 26 (2002). Print-outs. 'Cedric Smith - a mathematical castaway' by T. Crilly, A.4 2003 Mathematical Gazette vol 87 (March 2003)

Photocopy.

1966-2003

Biographical, A.1-A.19

A.5	'The story of Blanche Descartes' by C.A.B. Smith and S. Abbot, <i>Mathematical Gazette</i> vol 87 (March 2003)	2003
	Photocopy.	
	See section D.	
A.6	'Day Conference Devoted to the Contributions of CAB Smith to Linkage Analysis' organised by J.H. Edwards and S. Povey, University College London, 6 April 2003	2003
	Programme.	
A.7-A.10	AUTOBIOGRAPHICAL	1966-1994
A.7	'Life, Form, and Number', Inaugural Lecture as Weldon Professor of Biometry, University College London, delivered 17 May 1965	1966
	Bound copy.	
A.8	'Early Reminiscences', in <i>Graph Theory and Related Topics</i> , ed. J.A. Bondy and U.S.R. Murty, Academic Press 1979	1979
	Photocopy.	
A.9	'Memories of Haldane and other founders of mathematical genetics', contribution to Biometric Society (British Region) and Galton Laboratory joint Haldane Centenary Meeting, University College London, 6 November 1992	1992
A.10	New Year 1995 and Christmas 1994 circular letter	1994
	The bulk of the letter is anecdotes and curious reports from the press for the past year.	

Biographical, A.1-A.19

A.11-A.19	QUAKER INTERESTS	1972-1993
	Smith was a lifelong Quaker.	
A.11-A.18	Peace Studies Smith was particularly interested in the subject of Peace Studies. He was a member of the Friends Peace Committee, the Quaker Peace Studies Trust (which established the chair of Peace Studies at the University of Bradford) and a founder member (and chairman) of the	1972-1993
A.11	Conflict Research Society. Articles on peace studies by Smith published in <i>The</i>	1972, 1978
	Prend 'Peace Studies - 2: Why?' by Smith, 14 April 1972; Progress in Peace Research', 3 February 1978.	
A.12	Conflict Research Society Miscellaneous papers, including drafts of promotional material.	1985-1993
A.13	Quaker Peace Studies Trust Papers for meetings.	1992-1993
A.14	Nobel Peace Prize nomination Correspondence and papers. Quaker Peace & Service asked for suggestions for their	1991
	nomination for the 1992 Peace Prize.	
A.15, A.16	'Nuclear': contents of folder so inscribed divided into two for ease of reference	1980s
A.15	'Three Mile Island factor that ridicules East-West politics', letter by Smith in <i>The Guardian</i> , 12 May 1983; 'War by Mistake?' by Smith, <i>The Friend</i> , 29 May 1987	1983, 1987

Biographical, A.1-A.19

A.16	Newspaper cuttings re nuclear war etc	1980s
A.17	Correspondence	1990-1992
A.18	Miscellaneous papers	N.d
	'Conference on New Approaches to Arms Reduction'; English, French and Russian language versions of 'Multi- lateral nuclear disarmament: a new approach' by S. Salter.	
A.19	Other Articles by Smith in <i>The Friend</i> : 'Spiceland Reunion', 13 June 1980; Commentary, 11 December 1987; 'Kenneth Boulding (1910-1993)', 21 May 1993.	1980, 1987, 1993
	Typescript draft of advertisement for Quaker meeting at Rectory Lane, Edgware, London.	

C.A.B. Smith NCUACS 155/5/07

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PUBLICATIONS, B.1-B.95

[1934]-2003

B.1 BIBLIOGRAPHYB.2-B.63 PUBLICATIONS AND DRAFTSB.64-B.95 COLSON NEWS

B.1

BIBLIOGRAPHY

Lists of publications and related correspondence.

B.2-B.63 PUBLICATIONS AND DRAFTS

[1934]-2003, n.d.

Chiefly photocopies and offprints of published papers on genetics and mathematics. At B.48-B.63 is draft of unpublished book on genetics. Some of Smith's articles on peace research and other subjects are presented in section A.

B.2

1930s

'Negatrons', *The Gower* (University College School magazine), July 1934, 305-306.

'Note on the Gamma Function', *Mathematical Gazette* 23 (1939), 479.

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1940, 1941

The dissection of rectangles into squares', (with R.L. Brooks, A.H. Stone and W.T. Tutte), *Duke Math. J.* 7 (1940), 312-340.

'On unicursal paths in a network of degree 4', (with W.T. Tutte), *Amer. Math. Monthly* 48 (1941), 233-237.

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1944

'Linear equations in integers', (with V.E. Gumbrill), *Mathematical Gazette* 28 (1944), 22-25.

'On the definitions of elliptic functions', *Mathematical Gazette* 28 (1944) 41-45.

1947

'Some examples of discrimination', *Annals Eugen. Lond.* 13 (1947) 272-282.

'Note on the mathematical treatment', in 'The incidence of placenta praevia and antepartum haemorrhage according to maternal age and parity' by H. Kalmus, *Annals Eugen. Lond.* 13 (1947), 289-290.

'The counterfeit coin problem', *Mathematical Gazette* 31 (1947), 31-39.

'On the definition of logarithms', *Mathematical Gazette* 31 (1947), 246-247.

'A simple perfect square', (with R.L. Brooks, A.H. Stone and W.T. Tutte), *Proc. Ned. Akad. Wet.* 50 (1947), 3-4.

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'A simple exact test for birth-order effect', (with J.B.S. Haldane), *Annals Eugen. Lond.* 14 (1948), 117-124.

'Production of pure lines in bees', (with H. Kalmus) J. Genet. 49 (1948), 153-158.

'The construction of Youden Squares', (with H.O. Hartley) *J. Roy. Statist. Soc.* B 10 (1948), 262-263.

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'The sib sib age of onset correlation among individuals suffering from a hereditary syndrome produced by more than one gene', (with H. Harris), *Annals Eugen. Lond.* 14 (1949), 309-318.

'On the distances between the elements of a subset of a group', (with H. Kestelman) *J. Lond. Math. Soc.* 24 (1949), 131-135.

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'Fitness and survival', Eugenics Review 42 (1950), 16-23.

'A class of self dual maps', (with W.T. Tutte), *Canad. J. Math.* 2 (1950), 179-196.

1951-1952

'A test for heterogeneity of proportions', *Annals Eugen. Lond.* 16 (1951), 16-25; and 'A simplified heterogeneity test', *Annals Eugen. Lond.* 17 (1952), 35-36.

'Note on the analysis of variance and intraclass correlation', (with E.C. Fieller), *Annals Eugen. Lond.* 16 (1951), 97-104.

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'The detection of linkage in human genetics', J. Roy. Statist. Soc. B 15 (1953), 153-192.

'The separation of the sexes of parents in the detection of linkage in man', *Annals Eugen. Lond.* 18 (1954), 278-301.

'The separation of recombinations in the male and female in the detection of linkage in man', *Atti del IX Congresso Internazionale di Genetica* (1954), 927; and 'A comparison of the results of various methods of detecting human linkage, applied to microcythaemia (thalassaemia minor) and different blood groups', (with M. Siniscalco) *Atti del IX Congresso Internazionale di Genetica* (1954), 1190-1192.

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'The statistical comparison of two groups of animals with regard to a character which may affect either or both sides', *J. Genet.* 53 (1955), 534-535.

'Funzioni discriminanti e loro applicazioni alla biometria', *Convegno di Genetica: Atti della I Riunione dell' Associazione Genetica Italiana* (1955), 1-4; and 'Il calcolo delle frequenze geniche dai dati familiari' (with R. Ceppellini and M. Siniscalco), *Atti della I Riunione dell' Associazione Genetica Italiana* (1955), 3-9.

'The estimation of gene frequencies in a random mating

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population', (with R. Ceppellini and M. Siniscalco), Annals of Human Genetics 20 (1955), 97-115.

'The discrimination between normals and microcythaemics as a statistical problem', (with M. Siniscalco), *Comptes Rendus du Ve Congres International de Transfusion Sanguine* (1955), 483-490.

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'Note on the estimation of linkage', in 'Colour-Blindness and the Duchenne-type muscular dystrophy' by U. Philip and J.N. Walton, *Annals of Human Genetics* 21 (1956), 156-158.

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'The analogy between decision and inference', *Synthese* 36 (1977), 71-85.

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	'Simple projections', <i>Mathematical Gazette</i> 62 (1978), 19-25.
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'Iteration near a fixed point', in *Perspectives in Probability* and *Statistics*, Ed. J. Gani (1982), 157-193.

'Easy numbers', New Scientist, 5 August 1982, 387.

B.38

1983

'Galton, Francis', 'Haldane-Smith test' and 'Human genetics, statistics in', *Encycl. Stat. Sci.*, vol 3, 1983.

'Heterogeneity in human linkage estimation', in *Contributions to Statistics: Essays in Honour of Norman L. Johnson*. Ed. P.K. Sen. North-Holland, 1983.

Foreword to *Quantitative Dermatoglyphics* by D.Z. Lorsch, 1983.

B.39

1986

'Chi squared tests with small numbers', Annals of Human Genetics 50 (1986) 163-167.

'The development of human linkage analysis', Annals of Human Genetics 50 (1986), 293-311.

B.40

1987

'Genetic heterogeneity of X linked mental retardation with fragile X', (with A.H. Morris, C. Garrett, M. Daner and C. Thurston), *Annals of Human Genetics* 51 (1987), 107-124.

'Personal reminiscences of Dr S. B. Holt', *Coll. Anthropol.* 11 (1987), 283-286.

B.41

1988

'Level of probability in antibody identification', (with P. Tippett), *Transfusion* 28 (1988), 85. Includes 2pp typescript draft.

'Flash in the pan', New Scientist, 3 March 1988.

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Publications, B.1-B.95

'Estimation of inbreeding from population samples', (with R. Thomson), Adv. Appl. Prob. (1988), 127-135. 1989 B.42 'Some simple methods for linkage analysis', Annals of Human Genetics 53 (1989), 277-283.

'Genetics since Mendel', Social Inventions 16 (1989), 13-14.

'Obituary: Pat Moran, 1917-1988', J. Roy. Statist. Soc. A 152 (1989), 419.

'New 3-set Venn diagram', (with A.W.F. Edwards), Nature 339 (1989), 263.

'Hans Kalmus', UCL Bulletin (June 1989), 22.

B.43

1990, 1992

'Self-interest and profit are glorified', Stanmore Observer 18 January 1990.

'Customers and coaches', Modern Railways 47 (1990), 366.

'Probabilities of orders in linkage calculations', Annals of Human Genetics 54 (1990), 339-363.

'Determinants and current flows in electric networks', (with R.L. Brooks, A.H. Stone and W.T. Tutte), Discrete Math. 100 (1992), 291-301.

B.44

B.45

1993, 1994

Foreword to Collected Papers of Louis Fry Richardson, Volume 2: Quantitative Psychology and the Study of Conflict. Ed. O.A. Ashford, et al. CUP, 1993.

'Simultaneous symmetric equations' (with A.H. Stone), James Cook Mathematical Notes 62 (1994), 6278. 1p typescript with annotations at top.

1994, 1995

'Estimating multipoint recombination fractions', (with D.A.

B.46

Publications, B.1-B.95

Stephens) Annals of Human Genetics 59 (1995), 307 321. Two different proofs.

'Did Erdös save Western civilization?', in *The Mathematics of Paul Erdös*. Ed. J. Nesetril, 1996

2003

'The number of ways of grading examination candidates', (with W.T. Tutte), *Mathematical Gazette* 87 (2003), 34-35.

Published posthumously.

B.47 Book reviews

[1949]-1987

1 ...

Smith wrote many reviews of books on mathematical, genetical and general scientific subjects.

Integration in Finite Terms by J. F. Ritt. Science Progress (January 1949), 141.

Outline of Biometry & Statistics by C.I. Bliss and D.W. Calhoun. *Annals of Human Genetics* (1954).

Theorie des Graphes et ses Applications by C. Berge. Annals of Human Genetics (1958).

Russian-English Biological and Medical Dictionary by Eugene A. Carpovich. Annals of Human Genetics 23 (1959).

String Figures and Other Monographs by W. W. R. Ball, J. Petersen, H. S. Carslaw and F. Cajori. *Annals of Human Genetics* (1960).

Mathematical Biophysics by N. Rashevsky, Mathematical Gazette 46 (1962).

The Analysis of Biological Populations by M. Williamson. British Book News (July 1972).

The Mathematical Theory of the Dynamics of Biological Populations, ed. M. S. Bartlett and R. W. Hiorns. Annals of Human Genetics (1973).

Statistical Ecology, vols. 2 and 3, ed. G.P. Patil et al. Population Studies (1974).

Space, Time and Life by V.V. Nalimov. ca 1985

<i>I</i>	On Competition by C.T. de Wit. Genet. Res. Camb. 50 (1987).
B.48-B.63	Draft of unidentified book on genetics
	Typescript draft chapters found in folders.
B.48	'Chapter 1'
	Begins '1.2 Species and populations'. Paginated 1/4- 1/19.
B.49	'Chapter 2'
	Begins '2.1 Sexual reproduction'. Paginated 2/1-2/50.
D 50	(Charles 2)
B.50	Chapter 3
	Begins '3 Population frequencies'. Paginated 3/1-3/22.
B.51	'Chapter 4'
	Begins '4.1 Calculation of genetic probabilities'. Paginated 4/1-4/42.
B.52-B.54	'Chapter 5'
	Begins '5. Estimation problems in genetics'. Paginated 5/1-5/129.
	3 folders.
B.55-B.57	'Chapter 6'
	Begins 'Genetic linkage in human mendelian characters'. Paginated 6/1-6/86.
	3 folders.
D 50	'Chapter 7'
D.00	Chapter /

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1 ...

Begins 'Segregation tests and ascertainment problems'. Paginated [7/1]-7/60.

B.59-B.62 'Chapter 8'

Begins 'Relationships and inbreeding'. Paginated 8/1-8/166.

4 folders.

B.63

'Artist's copies of diagrams'

B.64-B.95

COLSON NEWS

1967-1990

Colson News was a small circulation journal founded by Smith, Ellis Hillman and Alvin Paul in 1984. It took its name from the mathematician John Colson FRS (1680-1760), who discovered reverse numbers in 1726.

The journal was devoted to properties of reverse (or twoway) numbers and other unusual types of numbers, number notation and related topics. It ran to 16 issues between 1984 and 1990. Paul resigned in 1987 and Malcolm Smithers joining for the third volume (leaving in 1990).

Paul had made the initial suggestion for starting the journal but Smith was the leading light. He had an interest in reverse numbers from the 1960s when he had advocated their use in his book *Biomathematics*. The journal's address was Smith's house, subscription cheques were paid to him, the typing was done on Smith's typewriter and most of the more mathematical items were by Smith.

B.64-B.70	Editorial Board	1982-1989
B.64	Information about John Colson; correspondence re reproduction of his image for the journal	1985-1986

B.65	Correspondence with fellow editors	1982-1986
B.66, B.67	Minutes of editorial board meetings 2 folders.	1983-1986
B.68	Correspondence with Charity Commission	1983-1985
B.69, B.70	Subscriptions 2 folders.	1984-1989
B.71-B.76	Correspondence	1967-1989
	Correspondence with subscribers and contributors. Includes some contributions to the journal. In alphabetical order.	
B.71	AC.	1984-1989
B.72	DF.	1985-1986
B.73	GJ. Includes earlier letters found with <i>Colson News</i> correspondence.	1967-1985
B.74	LO. Includes earlier letter found with <i>Colson News</i> correspondence.	1975-1989
B 75	P -7	1984-1989

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B.76	Manuscript notes on correspondence received after first issues	1984
B.77-B.95	Issues of Colson News	1984-1990
B.77	Volume 1, number 1, January (New Year's Day) 1984	
	Master copy; solution to puzzle.	
B.78	Volume 1, number 2, April 1984	
	Master copy.	
B.79	Volume 1, number 3, July 1984	
	Master copy; published copy; manuscript draft puzzle.	
B.80	Volume 1, number 4, December 1984	
	Master copy.	
B.81	Volume 2, number 1, March 1985	
	Master copy.	
B.82	Volume 2, number 2, June 1985	
	Master copy.	
B.83	Volume 2, number 3, June 1985	
	Master copy.	
B.84	Volume 2, number 4, December 1985	
	Master copy; manuscript drafts of 'Review of a "Dictionary of the Holy Bible" by Samuel D'Oyleyand John Colson'	

and the 'Sheep-counting Song'.

B.85	Volume 3, number 1, April 1986
	Master copy.
B.86	Volume 3, number 2, August 1986
	Master copy; manuscript notes.
B.87	Volume 3, number 3, April 1987
	Master copy; earlier pages; computer print-out.
B.88	Volume 3, number 3, April 1988
	Master copy.
B.89	Volume 4, number 1, September 1988
	Master copy; published copy.
B.90, B.91	Volume 4, number 2, July 1989
	Master copy; published copy; drafts of articles on Lewis Carroll.
	2 folders.
	This issue was a Lewis Carroll special.
B.92	Volume 4, number 3, August 1989
	Master copy; published copy.
B.93	Volume 4, number 4, October 1990
	Master copy.

This number announced the resignation of M. Smithers from the editorial board but it was not envisaged at the time that this would be the last issue.

B.94, B.95 Copies of contributions by Smith (some in collaboration)

2 folders.

SECTION C	TALKS AND LECTURES, C.1-C.25	1986-1994, n.d.
	The bulk of this material is the contents of Smith's envelopes and folders of transparencies. Most of these sets are undated with no indication of occasion, audience or place of lecture. Furthermore many of the sets appear highly miscellaneous in content, and may include transparencies featuring astrology, linguistics and place- names alongside others on genetics and statistical analysis.	
C.1	'Mathematics and statistics in biology'	1986
	Contents of folder: programme for British Society for History of Mathematics Conference, Pembroke College Oxford, 12-14 September 1986; 4pp manuscript notes for lecture; notes of slides; transparencies.	
C.2	Lecture on modified geometric distribution of progeny	ca 1988
	Transparencies; card from Sewall Wright, December 1987, to which the lecture refers; manuscript notes.	
C.3, C.4	Contents of envelope: transparencies for mathematical lecture, possibly on the construction of a perfect squared square 2 folders.	post 1990
C.5	'This mysterious universe', University College London Science Society, 3 November 1992	1992
	Notice; transparencies; notes.	
C.6	Contents of envelope: programme for Astrological Association Kepler Research Day, London, 12 November 1994; transparencies for lecture, possibly on 'combinatorialists' Smith is not listed as a lecturer but the programme	1994
	includes an open session.	

Talks and lectures, C.1-C.25

C.7	'Proposal of vote of thanks to Dr Alun Thomas on this paper on "Gene hunting with gradients of likelihood" '	N.d.
	2pp typescript.	
C.8	'Seconding of the vote of thanks to Peter Walley'	N.d
	2pp typescript.	
C.9-C.11	'Loesch data key'. Contents of folder so inscribed divided into three for ease of reference.	N.d.
C.9	33pp typescript on human genetics	
C.10	Manuscript notes	
C.11	Transparencies	
C.12	'Contractions Colourings + Nets'. Contents of folder so inscribed	N.d.
	Transparencies.	
C.13	'Correlations'. Contents of folder so inscribed	N.d.
	Transparencies.	
C.14	'Variance of variance'. Contents of folder so inscribed	N.d.
	Transparencies.	
C.15	'Voting'. Contents of folder so inscribed.	N.d.
	Transparencies.	

Talks and lectures, C.1-C.25

C.16	'X2 etc'. Contents of folder so inscribed.	N.d.
	Transparencies.	
C.17-C.19	'Two way no.'. Contents of folder so inscribed divided into three for ease of reference	N.d.
	Transparencies etc.	
C.20-C.22	'Transparencies'. Contents of folder so inscribed divided into three for ease of reference. Appear to be for talk/s on genetics.	N.d.
C.23	Contents of untitled envelope. Transparencies.	N.d.
C.24, C.25	Contents of untitled envelope divided into two for ease of reference.	N.d.
	Transparencies	

SECTION D

BLANCHE DESCARTES, D.1-D.20

As a mathematics student at Trinity College Cambridge Smith became close friends with three other mathematics students at Trinity, R. Leonard Brooks, Arthur H. Stone and William T. Tutte. Together they tackled a number of problems in mathematics and devised an imaginary mathematician, 'Blanche Descartes', under which name to publish their work, in a manner somewhat analogous to the more well-known imaginary French mathematician 'Nicholas Bourbaki'.

The origins of the name Blanche Descartes appear twofold. The name 'Blanche' seems have initially been chosen as containing the initials of the first names of the four (B, L, A and C) but the full name 'UR Blanche Descartes Limit'd', was an anagram of Cedric Austen Bardell Smith. An alternative to Blanche Descartes was 'F. de Carteblanche', and Rose Descartes also appeared.

See also A.5 for a history of the name.

The four also published more mainstream articles under their own names (see section B).

D.1-D.15 PUBLICATIONS

D.16 CORRESPONDENCE

D.17-D.20 TRANSPARENCIES

D.1-D.15 PUBLICATIONS

D.1

D.2

[1947]-[1986], n.d.

de Carteblanche, F., 'The coloured cubes problem', *Eureka* 9 (April 1947), 9-11; and Descartes, Blanche, 'A three colour problem', *Eureka* 9 (April 1947), 21, and *Eureka* 10 (March 1948), 24

Photocopies.

Descartes, Blanche, 'Network colourings', Math. Gaz. 32 (1948), 67-69

Photocopy.

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Blanche Descartes, D.1-D.20

D.3	Descartes, Blanche, 'Why are series musical?', <i>Eureka</i> 16 (October 1953), 18-20; and Descartes, Blanche, 'Hymne to Hymen', <i>Eureka</i> 17 (October 1954), 5-7 Photocopies.
D.4	Descartes, Blanche, 'Solution to problem 4526', Amer. Math. Monthly 61 (1954), 352 Photocopy.
D.5	Descartes, Blanche, 'Enumerational'
	Poem presented to the NATO Summer School on Graph Theory and Theoretical Physics, Frascali, June 1964.
	1p typescript.
D.6	Descartes, Blanche and Rose, 'La coloration des cartes', <i>Eureka</i> 31 (October 1968), 29-31
	Photocopy.
D.7	Descartes, Blanche, 'Bourbaki in reverse', J. Rec. Math. 2 (October 1969), 206-211
	Photocopy.
D.8	Descartes, Blanche, 'Song of the subgraph hunter' and 'Enumerator's song', in <i>Combinatorial Structures and</i> <i>Their Applications (Proc. Internat. Conf., Calgary, 1969)</i> ; Gordon and Breach, New York, 1970
	Photocopy.
D.9	de Carteblanche, F, 'The princess and the roses', <i>J. Rec. Math.</i> 3:4 (October 1970), 238-239; 'The roses and the princes', <i>J. Rec. Math.</i> 7:4 (Fall 1974) 295-298
	3pp typescript; offprint.

Blanche Descartes, D.1-D.20

D.10	Descartes, Blanche, 'Division of a square into rectangles', <i>Eureka</i> 34 (October 1971), 31-35	
	Photocopy.	
D.11	Brooks, R.L.; Smith, C.A.B.; Stone, A.H. and Tutte, W.T. Letter to the editor: 'Proof of existence?', <i>J. Rec. Math.</i> 4:4 (October 1971) 294-295	
	Photocopy.	
D.12	Descartes, Blanche, Letter to the editor, <i>J. Rec. Math.</i> 7:1 (Winter 1974), 60	
	Photocopy.	
D.13	Descartes, Blanche, 'On a theorem of Kuratowski', Discrete Math., Master Index Issue for vols 1-10, 1975	
	Photocopy.	
D.14	Descartes, Blanche, [Two clerihews]. In: Editorial, <i>Eureka</i> 46 (January 1986), 1-2.	
	Photocopy.	
D.15	Descartes, Blanche, 'Reductio ad absurdum'	
	1p typescript.	
	Possibly published in James Cook Mathematical Notes.	
D.16	CORRESPONDENCE	1973, 1979,
		1980
	Correspondence between Blanche Descartes and D.G. Kendall (1973), and to E. Palmer (1979) and M. Gardner (1980).	

Blanche Descartes, D.1-D.20

TRANSPARENCIES

N.d.

4 folders.

Some of the transparencies in section C also refer to Blanche Descartes.

SECTION E

RESEARCH FRAGMENTS, E.1-E.10

Virtually nothing of Smith's research as a geneticist or a mathematician survives. This section presents the three random survivals found in the Galton Laboratory which document three different interests.

E.1-E.5 'GAUQUELIN'

Contents of Smith's folder so labelled divided into five for ease of reference: chiefly computer print-outs, punched cards, analysis of figures.

Michel Gauquelin was a French statistician who, with his wife Francoise, undertook a study of astrology by analysing correlations between date of birth and subsequent profession. He is particularly well-known for the 'Mars Effect' which correlated the rising and culminating of the planet Mars with the birth of successful athletes. Smith is known to have developed an interest in this area and the material in the folder appears to relate to this.

E.6-E.9

E.10

'RECORDINGS'

Contents of Smith's folder so labelled divided into four for ease of reference: translations of set phrases in a variety of languages.

This relates to Smith's interest in the analysis of language. A 'conversation' beginning 'Good morning! Can I talk to you a minute?' was translated, possibly by students at UCL, into different languages, ranging from the main Indo-European and Oriental tongues to Basque and Hungarian. The translation may have been recorded as well as being written out. Some of the translations also include lists of numbers and common words.

'Linkage'

Manuscript notes.

1979-1980

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1968-1980, n.d.

1968, 1976

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SECTION F	CORRESPONDENCE, F.1-F.5	1966-1993
F.1	1966-1969 Includes exchange with S. Ferguson on 'reverse notation' (Colson numbers).	
F.2	1979	
F.3	1982-1988 Includes Smith's written remarks on I.D. Hill's talk to the Royal Statistical Society on voting methods, December 1987; and print-out of copy of letter to P. Taylor, editor of <i>Eureka</i> , August 1983, in which Smith sets out his views on the journal and the importance of mathematics.	
F.4	1990 Letter from J.D. Skinner II enclosing typescript of 'Note. Uniquely squared squares of common reduced side and order', with Smith's material (includes transparencies) found attached.	
F.5	1993 Correspondence relating to 'An antimatter comet?' by K. Bullough. With copy of the draft.	

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