



Durham
University

Durham University Library

Catalogue of the Edward Collingwood Papers

Date range of material: 1921-1988

Durham University Library
April 2022

Contents

Preface	iii
Introduction	1
Catalogue of material:	
Others' Mathematical Pamphlets and Offprints.....	5
Collingwood Offprints.....	6
Book Drafts.....	7
Lectures and notes.....	8
Conferences.....	9
Correspondence.....	12
Research Papers.....	14
Other Institutions.....	19

Preface

Creation of catalogue

Catalogue by Michael Stansfield

Contact details

Palace Green

Durham

DH1 3RN

England

Telephone: 0191 334 2972

Email: PG.Library@durham.ac.uk

URL: [http://www.dur.ac.uk/library/asc/
ark:/32150/s1ff3655350/PDF](http://www.dur.ac.uk/library/asc/ark:/32150/s1ff3655350/PDF)

Introduction

Collection title: Edward Collingwood Papers

Reference code: GB-0033-CWD

Dates of creation: 1921-1988

Extent: 13 metres

Repository: Durham University Library, Archives and Special Collections

Creator: Edward Foyle Collingwood (1900-1970)

Language of material: English

Contents

Mathematical papers of Sir Edward Collingwood (1900-1970): files of mathematical notes etc. and bound volumes of his collection of other people's mathematical papers. Comprises:

Printed pamphlets and offprints of mathematical papers from Europe and the rest of the world 1920s-1960s, c.1500 items bound in 155 numbered volumes with 4 other volumes

Printed offprints of his own published papers and articles, 49 articles in 16 files

Loose offprints and photocopies of other mathematicians' articles and papers, 1 box

Loose preprints of other mathematicians' articles and papers, 1 box

Manuscripts of his book with Valiron, 'General Theory of Integral Functions' and of his text 'The Theory of Cluster Sets', 3 files

Lectures and notes, 14 files

Conferences including the British Mathematical Colloquium 1949-1970, 25 files

Papers and reports from the department of Machine Intelligence at Edinburgh University re the development of computers in the 1960s, 1 box

Letters from Dr R.C.H. Tanner, Ryan, W. Rudin, Piranian, A.J. Lohwater, Gettring, M.L. Cartwright and general, 12 files

Photocopies of letters to Mrs C. Tanner 1929-1970, 3 files

Draft papers, lecture notes, chapters, reports, proofs, business with the London Mathematical Society, 49 files

Collingwood's running of the Lilburn estate, his administrative career in Northumberland as a JP and then high sheriff, his wartime naval service, any involvement in administration in Cambridge, his work for Durham, his picture collecting and his interest in Newcastle medical services are all unreflected in this collection.

Biography

Sir Edward Foyle Collingwood (1900–1970), mathematician and medical administrator, was born at Lilburn Tower, near Wooler, Northumberland, on 17 January 1900, the eldest of the four sons of Colonel Cuthbert George Collingwood (1848–1933), landowner, of Glanton Pyke, and his wife, Dorothy, daughter of the Revd William Fawcett of Somerford Keynes, Gloucestershire. Fawcett's wife was a coheir of the Foyle estate at Somerford Keynes. Collingwood and his brothers all enjoyed shooting and fishing and the social life of the country. Collingwood's mother, who survived him, was always a strong influence in the family.

Collingwood went to the Royal Naval College at Osborne in 1913 and Dartmouth in 1914. A year later he joined the Royal Navy as a midshipman in the Collingwood (by special arrangement). Before experiencing any action he fell down a hatchway, sustaining serious injuries, and was in a hospital ship which followed the battle of Jutland. He was invalided out of the navy. After passing twelfth for Woolwich he failed the medical examination,

whereupon he went up to Trinity College, Cambridge, in 1918 to read Mathematics. At Lilburn there were letters of Edward's great-grandfather Vice-Admiral Cuthbert Collingwood, showing his interest in the teaching of Mathematics to the young; Collingwood was much interested in these and other papers, in the small observatory built by his grandfather, and in biology, bacteria, and photographic techniques.

At Cambridge Collingwood's director of studies, G.H. Hardy, inspired him to aim at mathematical research, to the dismay of his father and uncle. He obtained a third class in part one of the mathematical tripos in 1919 and in political specials one and two in the Michaelmas term of 1920, and then took his degree the following year. This unorthodox course left him free to study those parts of Mathematics which interested him at his own pace and omit large parts of the heavy course for part two of the mathematical tripos. As an undergraduate he kept somewhat aloof from his mathematical contemporaries, and had a full, but entirely separate, social life. He used his private means to entertain well, but never ostentatiously.

When Hardy went to Oxford in 1920, J.E. Littlewood advised Collingwood on research. He obtained a Rayleigh prize in 1923, but failed to obtain a Trinity research fellowship. At the invitation of W.H. Young he went to Aberystwyth in 1922. There Professor G. Valiron of Strasbourg was lecturing in French on integral functions, and Collingwood made translations which eventually formed a book. In 1924–1925 he held a Rouse Ball travelling studentship, mainly at the Sorbonne, and thus became the only one of the Hardy–Littlewood school to have close relationships with French mathematicians.

Collingwood took his MA degree in 1925 and, returning to Cambridge, read for a PhD degree (which he obtained in 1929) for a dissertation which included material from some already published papers on integral and meromorphic functions. He was made a member of the high table at Trinity, and in 1930 steward. Most unusually for a non-fellow, he was elected to the council of Trinity College. He still entertained well. He also regularly gave two advanced courses for the mathematical faculty, but did no regular undergraduate teaching. The six mathematicians Littlewood, Collingwood, Macintyre, Clunie, Rahman, and Joyal constituted a sequence, each the PhD student of the one before.

In the 1930s Collingwood became interested in pictures, and, when a family trust fell in on the death of an aunt, he bought some fine contemporary and eighteenth-century pictures through Geoffrey Agnew, one of his earlier Cambridge friends. He also made a collection of Chinese porcelain, becoming quite an expert on the subject.

Collingwood was lieutenant in the Northumberland Hussars in 1923–1927 and became a JP in 1935. He was chairman of the bench for many years and deputy lieutenant for Northumberland in 1959. He gave much time and thought to the management of the Lilburn estate. When in 1937 he became high sheriff of Northumberland he gave up his Cambridge obligations, but continued to visit, in particular for the college commemoration feast.

In the Second World War, Collingwood joined the Admiralty minesweeping division as an officer of the Royal Naval Volunteer Reserve, reaching the rank of acting captain. He served as director of scientific research with the Admiralty delegation in Washington in 1942, as officer in charge of the sweeping division in 1943, chief scientist, Admiralty mine design department in 1943–1945, and as one of a delegation to Moscow on a special scientific mission. His all-round ability and wide experience, backed by his determination, were effective in getting the money needed for the scientists' work; he also impressed the scientists as having a sound grasp of physical principles. In 1946 he was appointed CBE, and became an officer of the American Legion of Merit.

Collingwood's first paper in 1924 generalized Nevanlinna's second fundamental theorem from 2 to p exceptional values, a result which Littlewood had, independently, stated in a letter to Nevanlinna. Collingwood's second paper, also in 1924, developed the idea of deficient values, questioning whether they were asymptotic. During the war this was proved false. After a gap from 1932 to 1948 Collingwood returned to this subject and discussed the islands in which $|f(z)-a| < \sigma$ and $f(z)$ takes no value more than p times, where σ and p may tend to infinity with $|a|$. These later papers seem less effective than the first two but led to fruitful discussions with Weitsman in June 1970. Collingwood's wide knowledge of the literature of mathematics enabled him and the writer to develop the theory of cluster sets in a joint paper in *Acta Mathematica* (87, 1952) which W.K. Hayman described as the beginning of the modern subject. If $f(z)$ takes values on the Riemann sphere in $|z| < r$, and there exists a sequence $z_n \rightarrow ei\theta$ such that $f(z_n) \rightarrow w$, then w belongs to the cluster set $C(f, ei\theta)$ of $f(z)$ at $ei\theta$. Their relationship to the range of values taken by $f(z)$ near $ei\theta$, and to neighbouring Fatou points, $ei\theta_n$, $\theta_n \rightarrow \theta$ at which $f(z)$ tends to a limit in any angle, and so on, formed the subject matter of the rest of Collingwood's mathematical papers. The standard textbook, written by Collingwood and A.J. Lohwater (1966) includes Collingwood's important applications to prime ends.

After 1945 Collingwood actively sought mathematical contacts. In particular he attended the new British Mathematical Colloquium, where he helped to organize special sessions on the theory of functions, and thus soon became a well-known figure. In 1959 he obtained a Cambridge ScD, in 1962 he was knighted, and in 1965 he was elected FRS and made an honorary LLD of Glasgow University where in 1961 he had given the seventh Gibson lecture. He joined the council of the London Mathematical Society (LMS) in April 1959 and was treasurer from 1960 to 1969, when he became its president. Collingwood made the fullest use of the benefaction of G.H. Hardy to strengthen and widen the activities of the society—including the founding of the Applied Probability Trust for the publication of the *Journal of Applied Probability*, edited by J. Gani, which began in 1964. Collingwood took a large part in drafting the petition, draft charter, and statutes for a royal charter (approved by the privy council in 1964) for the LMS to mark its centenary in 1965.

An interest in bacteria, as well as in local affairs, led Collingwood into medical fields. He was an active supporter of Newcastle hospitals, vice-chairman of the Central Health Services Council (1959–1963), vice-president of the International Hospital Federation (1959–1967), a member of the Medical Research Council (1960–1968) and treasurer (1960–1967), and a member of the royal commission on medical education (1965–1968). He was made an officer of the French *ordre de la Santé Publique*, in 1963. He had a great effect on medicine by contributing to the technical development of the use of computers in that area. He spoke at the annual congress of the British Institute of Radiology in 1967 and at that of the British Dental Association in 1970. He also had a strong interest in history, and knowledge of it.

Collingwood was short and fair and walked with long strides. He early became very bald. He was made an honorary DSc of Durham in 1950, and was active in Durham University affairs as chairman of the Council of Durham Colleges from 1955 and the University from 1963 until his death at home at Lilburn Tower on 25 October 1970. He never married. His large mathematical library and many manuscripts were left to the Department of Mathematics at Durham, and the university's Collingwood College was named after him in 1972.

Accession details

Transferred from the Mathematics Department in August 2006 (acc No Misc.2006/7:4)

Previous custodial history

Held by the creator and his family and then bequeathed to the Mathematics Department of Durham University.

Arrangement

Initially arranged by I. Grattan-Guinness in 1973 with some adjustments by Michael Stansfield in January 2022 into the following sections:

- A. Other's Mathematical Pamphlets and Offprints
- B. Offprints of Collingwood's Works
- C. Drafts of Collingwood's Books
- D. Collingwood Lectures and Notes
- E. Conferences Attended by Collingwood
- F. Correspondence with Collingwood
- G. Research Papers of Collingwood
- H. Material from Other Institutions

Conditions of access

Open for consultation.

Copyright and copying

Permission to make any published use of material from the collection must be sought in advance from the Head of Collections (e-mail PG.Library@durham.ac.uk) and, where appropriate, from the copyright owner. The Library will assist where possible with identifying copyright owners, but responsibility for ensuring copyright clearance rests with the user of the material

Appraisal

None carried out as yet.

Accruals

None expected

Form of citation

The form of citation should use the code GB-0033-CWD, or the collection name Edward Collingwood Papers, followed by the *reference number*

To order items in the searchroom, use the collection reference code(s), derived by removing the repository code (GB-0033-), followed by the reference number. Citing the section of the finding aid is useful.

Processing

Summarily catalogued in XMetal by Michael Stansfield January 2022; printed material yet to be catalogued.

Bibliography

E.F. Collingwood translation of Georges Valiron, *Lectures on the General Theory of Integral Functions* (1923)

E.F. Collingwood and M.L. Cartwright, *Boundary Theorems for a Function Meromorphic in the Unit Circle* (1952)

E.F. Collingwood and A.J. Lohwater, *The Theory of Cluster Sets* (Cambridge 1966)

Related material - here

Collingwood College Archive

UND/F16 (the college was named after him but has none of his papers in its archive)

Others' Mathematical Pamphlets and Offprints

CWD A1-161 1920s - 1960s

1-159. Printed pamphlets and offprints of mathematical papers from Europe and the rest of the world, 159 volumes.

160. Loose offprints and photocopies of other mathematicians' articles and papers, 1 box.

161. Loose preprints of other mathematicians' articles and papers, 1 box.

Also c.30 further unnumbered items.

c.1500 items bound in 155 numbered volumes with 4 other volumes, 2 boxes, and c.30 further items

Collingwood Offprints

CWD B1-49 1920s - 1960s

Printed offprints of Collingwood's own published papers and articles

49 articles in 16 files

Book Drafts

CWD C1-3 1923, 1966

1. Manuscript of Collingwood's book with Georges Valiron, *General Theory of Integral Functions*, 1 volume (1923).

2-3. Typescript of Collingwood's book with A.J. Lohwater, *The Theory of Cluster Sets*, 2 files (1966).

3 files

Lectures and notes

CWD D1-14 1920s - 1960s

Collingwood's lectures and notes, apparently delivered at Cambridge, with notes for individual lectures given at meetings.

13 files in springback binders with 1 boxfile

Conferences

CWD E 1949 - 1970

Paperwork for conferences, symposias, colloquia etc, mostly abroad, some including his papers if he delivered one, but generally papers of the conference, paperwork and correspondence about being invited, arranging tickets/travel and accommodation.

25 files

CWD E1-2 1949 - 1970

British Mathematical Colloquia, official circulars, programmes, leaflets, and some incidental correspondence, for:

1. 1949 Manchester, 1950 Oxford, 1951 Bristol, 1952 Greenwich, 1953 Durham, 1954 Cambridge, 1955 Exeter, 1956 St Andrews, 1958 Reading
2. 1959 Cardiff, 1960 Royal Holloway, 1961 Liverpool, 1962 Southampton, 1963 Shrivensham, 1964 Leicester, 1965 Dundee, 1966 Imperial College, 1967 Swansea, 1968 Leeds, 1969 Birmingham, 1970 York

2 paper files

CWD E3-7 1950 - 1970

International Congress of Mathematicians conference papers, August/September:

3. 1950 USA, Harvard
4. 1954 Netherlands, Amsterdam
5. 1958 Edinburgh
6. 1962 Sweden, Stockholm
7. 1970 France, Nice

5 paper files

CWD E8 August 1957

Finland, Helsinki, International Colloquium on the Theory of Functions August 1957, paper 'Cluster Sets and Prime Ends', correspondence and conference papers.

Paper file

CWD E9 1962

Finland, Helsinki Colloquium on Mathematical Analysis 1962, paper 'Cluster Set Theorems for Arbitrary Functions with Applications to Function Theory', typescript proofs and offprints, correspondence with I.S. Louhivaara, published 1963.

Paper file

CWD E10 December 1962 - March 1963

West Germany, Oberwolfach, Funktionentheorie einer Veränderlichen symposium March 1963, correspondence with H. Grunsky and paperwork.

Paper file

CWD E11 July 1963

West Germany, Marburg and Karlsruhe, Mathematical Colloquium, correspondence and tickets etc.

Paper file

CWD E12 1964 & 1966

Finland, Helsinki, Colloquium on Mathematical Analysis, correspondence and paperwork

Paper file

CWD E13 May 1964

Imperial College, Conference on the Classical Theory of Functions of One Complex Variable, correspondence etc.

Paper file

CWD E14 March - November 1965

USA visit, lectures at Michigan State University, correspondence, paperwork and a photo, with Edwin L. Crosby, Joe Gani, J.K. Arnold, Maurice Heins, E.L. Hill, R.P. Boas, J.E. McMillan, A.J. Lohwater.

Paper file

CWD E15 August 1965

USSR/Russia, Moscow and Erevan, correspondence and travel documents.

Paper file

CWD E16 June - July 1966

American Mathematical Society, Summer Institute on Entire Functions and Related Parts of Analysis, La Jolla, University of California, San Diego, correspondence and conference papers.

Paper file

CWD E17 1966 - 1970

University of Salford, Collection and Handling of Medical Data symposium May 1967, correspondence and conference papers, including programme for the Installation of Prince Philip, Duke of Edinburgh, as chancellor of the university 16 June 1967.

Paper file

CWD E18 August 1967 - August 1968

USA, Cleveland, Ohio, Case Western Reserve University, correspondence re a series of lectures, with A.J. Lohwater.

Paper file

CWD E19 May - August 1968

Singapore, first annual congress of the National Academy of Science August 1968, correspondence and conference papers.

Paper file

CWD E20 January 1968 - January 1969

Australia, Sydney, Tenth Commonwealth Universities Congress August 1968, correspondence and congress papers.

Paper file

CWD E21 January - August 1968

Japan, lecture tour September 1968, correspondence and paperwork.

Paper file

CWD E22 January - March 1970

West Germany, Oberwolfach, Tagung über Funktionentheorie conference February 1970, correspondence (D. Gaier) and paperwork.

Paper file

CWD E23 December 1969 - August 1970

USA, Washington DC, Classical Function Theory conference June 1970, correspondence and conference papers.

Paper file

CWD E24 August 1970

Finland, University of Jyväskylä, Colloquium on Mathematical Analysis

Paper file

CWD E25 February - September 1970

France, Menton, International Mathematical Union conference August 1970,
correspondence and conference papers.

Paper file

Correspondence

CWD F 1929 - 1970

Letters to Collingwood generally on academic, Mathematical, topics with some papers or notes on the topics, with some copy out letters or files of drafts in response.

15 files

CWD F1 September 1949 - August 1970

Correspondence with Mary L. Cartwright.

Paper file

CWD F2 May 1960 - September 1970

Correspondence with Fred W. Gehring.

Paper file

CWD F3 February 1955 - December 1970

Correspondence with A. Jack Lohwater, including a few late 1970 with Lieu-Gen Sir George Collingwood, and Collingwood's (with J.L. Doob and F.W. Gehring) paper 'A Generalization of a Theorem of Lindelöf', and a talk of his at Chicago 1967.

2 paper files

CWD F4 October 1956 - August 1970

Correspondence with George Piranian, including 'Arcs of Julia of Functions Meromorphic in the Unit Disk' by V.I. Gavrilov, and Piranian's papers 'The Distribution of Prime Ends', 'The Boundary of a Simply Connected Domain' and (with Collingwood) 'Tsuji Functions with Segments of Julia'.

Paper file

CWD F5 June 1954 - August 1960

Correspondence with Walter Rudin, including his papers 'Non-Analytic Functions of Absolutely Convergent Fourier Series', 'On a Problem of Collingwood and Cartwright', and 'Radial Cluster Sets and Related Topics'.

Paper file

CWD F6 October 1966 - July 1970

Correspondence with Frank Ryan.

Paper file

CWD F7 July 1960 - September 1969

Correspondence with R. Cicely H. Tanner.

Paper file

CWD F8-11 1955 - 1970

Correspondence with various:

8. A-D, including J.L. Doob's paper 'Relative Cluster Values of Analytic Functions'

9. E-K

10. L-R

11. S-Z

4 paper files

CWD F12 September 1959 - September 1964

Copy Collingwood out letter books (3), with an index of recipients.

Paper file

Correspondence

CWD F13-15 1929 - 1970

Photocopies of letters from Collingwood to R. Cicely H. Tanner:

13. 1929-1953.

14. 1955-1967.

15. 1968-1970.

3 paper files

Research Papers

CWD G 1921 - 1988

Draft papers, lecture notes, book chapters, proofs, and a little correspondence with fellow academics.

49 files

CWD G1 1959 - 1960

Emile Borel, typescript MS, offprints, proofs; letters: Bosanquet, Heilbroan, Reiter.
Paper file

CWD G2 1961 - 1965

Lebesgue, Cantor, Young and Blumberg material.
Paper file

CWD G3 1950 - 1952

Boundary (*Acta Mathematica*) problems etc, Collingwood and Mary L Cartwright, references etc.
Paper file

CWD G4 1957 - 1959

'Structure and Distribution of Prime Ends', with George Piranian, mainly correspondence with proof sheets, annotated.
Paper file

CWD G5 1964 - 1978

The Mapping Theorems of Carathéodory and Lindelöf, with George Piranian, typescript, proofs and 2 letters.
Paper file

CWD G6 January - May 1968

James D. (Crick) Watson, DNA 2 newspapers (*Sunday Times Review*) and 2 journals *The Atlantic*.
Paper file

CWD G7 1954

Acta Mathematica 91, early notes and drafts ('On the radial cluster sets of functions meromorphic in the unit circle').
Paper file

CWD G8 1960 - 1964

F.W. Gehring, notes on other's works, various notes.
Paper file

CWD G9 [1960s]

Notes on others' work, 'a connected set', Singapore lecture 1968.
Paper file

CWD G10 [1960s]

Book *The Theory of Cluster Sets* (with A.J. Lohwater), general revisions, plans and diagrams.
Paper file

CWD G11 [1960s]

Book *The Theory of Cluster Sets* chapter drafts.
Paper file

CWD G12 [1960s]

Book *The Theory of Cluster Sets* notes.

Paper file

CWD G13 1960 - 1964

Notes of Gross's *Theorems*.

Paper file

CWD G14 1922 - 1927

Early mathematical notes.

Paper file

CWD G15 1956 - 1967

Lecture and seminar notes, including 'Some Recent Developments in Complex Function Theory by Means of the Theory of Cluster Sets'.

Paper file

CWD G16-18 [1950s]

Book with Mary L. Cartwright: *Boundary Theorems for a Function Meromorphic in the Unit Circle*.

16. Manuscripts.

17. Manuscripts.

18. Proofs, typescript, pencil manuscript, correspondence with V. Stenström and J. Malmquist.

3 paper files

CWD G19 1956 - 1967

Manuscripts and typescripts of various papers by Collingwood, cross-referenced to ?CWD B, such as 'Sufficient Conditions for Reversal of the Second Fundamental Inequality for Meromorphic Functions'.

Paper file

CWD G20 1946 - 1964

Various mathematical notes, including on Ahlfors's Problem.

Paper file

CWD G21 1952 - 1964

Various mathematical notes and diagrams.

Paper file

CWD G22 [1950s - 1960s]

General mathematical notes, including on Iverson's Lemma.

Paper file

CWD G23 [1960s]

Mathematical notes.

Paper file

CWD G24-26 [1960s]

Superseded book sections.

3 paper files

CWD G27 [1966]

Book *The Theory of Cluster Sets* proof sheets.

Paper file

CWD G28 1955

Manuscript, typescript and London Mathematical Society (W.N. Bailey and Bosanquet) correspondence and proofs for 'A Theorem on Prime Ends'.

Paper file

CWD G29 [1948]

Typescript, proofs and correspondence with I.E. Segal and Zygmund of the American Mathematical Society for 'Exceptional Values of Meromorphic Functions'.

Paper file

CWD G30 1958 - 1960

Typescript and official letters (Bambah, Mahadevan, Ramanujan, Shah) re 'On Functions Meromorphic in the Unit Disc and Restricted on a Spiral Converging to the Boundary' in the Golden Jubilee volume of the Indian Mathematical Society.

Paper file

CWD G31 1956 - 1958

Material for Emile Borel and relevant letters from L.S. Bosanquet, A. Denjoy, D. Dugué, K.A. Hirsch, and G.E.H. Reuter.

Paper file

CWD G32 [1940s - 1960s]

Books various notes.

Paper file

CWD G33 [1940s - 1960s]

Books bibliography and references.

Paper file

CWD G34 1963

Lecture: 'Mathematical Minds', at Newcastle, 25 October 1963, for the University of Newcastle Medical Society, text, notes and some correspondence.

Paper file

CWD G35 1921 - 1922

Translation of George Valiron's Aberystwyth lecture notes.

Paper file

CWD G36 1961 - 1966

Historical notes for Collingwood's Gibson memorial lecture on '[Georg] Cantor and the analysts' delivered at the University of Glasgow 30 November 1961, unpublished, and a further lecture 'Cantor and the foundations of Set Theory' delivered to the Durham University Mathematical Colloquium 1 December 1966.

Paper file

CWD G37 1961 - 1969, 1988

Historical notes on Georg Cantor and the 1961 Glasgow lecture, with correspondence about their return by I. Grattan-Guinness 1988.

Paper file

CWD G38 1968 - 1970

Historical notes for an unfinished article on George Green commissioned by the *Dictionary of Scientific Biography*, including G. Green, *An Essay on the Application of Mathematical Analysis to the Theories of Electricity and Magnetism* (Nottingham 1828).

Paper file

CWD G39 1958 - 1960

Hayman Seminar 1958, 'On the Cluster Sets of Arbitrary Functions', text with notes and correspondence with Piranian, Weston, Dolzenko.

Paper file

CWD G40 1952 - 1954

Paper 'On the Linear and Angular Cluster Sets of Functions Meromorphic in the Unit Circle' (*Acta Mathematica* 1954), manuscript and correspondence with Bagemihl.

Paper file

CWD G41 [1950s]

Notes on Noshiro's papers in Japanese Journals 1937-1940.

Paper file

CWD G42 1952

Notes on Weierstrass's Theorem Interior Transformations etc.

Paper file

CWD G43 1955 - 1956

Paper 'Applications of the Theory of Cluster Sets to a Class of Meromorphic Functions', manuscripts and correspondence with Lohwater, Denjoy, Gauthier-Villars.

Paper file

CWD G44 1955

Papers 'A Theorem on Certain Classes of Singularities Defined by Cluster Sets' and 'On a Theorem of Eggleston Concerning Cluster Sets', manuscript and proofs.

Paper file

CWD G45 1958 - 1960

Paper 'Cluster Sets of Arbitrary Functions', lecture 24 September 1958, published 1960, manuscript, proofs, and correspondence with J.L. Walsh.

Paper file

CWD G46 1949

Lectures: 'Exceptional Values of Analytic Function' (Aberdeen, April 1949), 'The Distribution of Values of an Analytic Function' (British Association, September 1949).

Paper file

CWD G47 1948

Paper 'Exceptional Values of Meromorphic Functions', drafts and rough notes.

Paper file

CWD G48 1957 - 1958

'Lateral Points', with George Piranian, manuscript notes

Paper file

CWD G49 1958 - 1961

'The Radial Limits of Functions Meromorphic in a Circular Disc', published 1961, manuscript and typescript, proofs, and correspondence with Mary Cartwright.

Paper file

CWD G50 [?1960s]

Papers of I. Grattan-Guinness:

'The Unknown Origins of Mathematical Physics'

'Towards a Biography of Georg Cantor' (draft)

'Mrs Young's Later Notes on "The Theory of Sets of Points"'

Paper file

Other Institutions

CWD H 1943 - 1969

Material concerning other institutions.

Paper, 1 box & 1 file

CWD H1 1965 - 1969

Papers and reports from the Department of Machine Intelligence at Edinburgh University re the development of computers, including Bulletins, reports, especially Experimental Programming Reports, papers, and seminar lists. Collingwood contributed a preface to the first volume published by the Unit in 1967.

Paper, 1 box

CWD H2 January 1943 - November 1947

Aero Research Technical Notes Bulletins 1-59, from Aero Research Ltd of Duxford, Cambridge.

Paper file