

Catalogue of the papers and correspondence of

**Richard Laurence Millington Synge**

**FRS**

(1914 - 1994)

**VOLUME I**

List of Contents  
General Introduction  
Sections A - G

by Timothy E. Powell, Peter Harper, Adrian Nardone  
and Alan Hayward  
NCUACS catalogue no. 73/2/98

Title:	Catalogue of the papers and correspondence of Richard Laurence Millington Synge FRS (1914-1994), Biochemist
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## GENERAL INTRODUCTION

### PROVENANCE

The papers were received from Dr Ann Synge (widow) in May 1996 and from Dr Elizabeth Smith and Dr Charlotte Synge (daughters) in August and September 1997.

### OUTLINE OF THE CAREER OF R.L.M. SYNGE

Richard Laurence Millington Synge was born in Liverpool on 28 October 1914. He was educated at Old Hall Preparatory School, Wellington, Shropshire and Winchester College before being awarded an exhibition in classics to Trinity College Cambridge in 1931. However, Synge switched from classics to science prior to taking up his place at Trinity College in 1933, and he graduated with a Double First in the Natural Sciences Tripos in 1936. After graduation Synge remained in Cambridge, studying in the Department of Biochemistry under the supervision of N.W. Pirie. He researched on protein analysis, in particular the separation of acetyl-amino acids. Contemporary techniques for separating biological substances into its component chemicals were insufficient for Synge's needs and in 1938 he contacted A.J.P. Martin, also working in Cambridge, who had devised apparatus for the extraction of vitamin E. Synge, with the support of the Australian biochemist H.R. Marston, was given a studentship from the International Wool Secretariat for joint research with Martin and they collaborated to build more a sophisticated apparatus for separation of amino acids by extraction techniques.

In 1938 Martin moved to the Wool Industries Research Association Laboratories in Leeds. He was followed shortly thereafter by Synge whose studentship was transferred to Leeds. Following the award of his Ph.D. in 1940, Synge was appointed Biochemist to the Wool Industries Research Association. Synge and Martin continued their joint work developing their ideas for amino acid separation and in May 1941, using a silica gel column, they demonstrated that partition chromatography could work in practice. This allowed complex biochemical substances to be broken down and analysed with a facility impossible with previous chemical techniques. Over the next few years Synge and Martin worked to find a more versatile medium than silica gel and developed the filter paper chromatograph. For their invention of the technique of partition chromatography, an achievement that transformed the area of science that would come to be known as molecular biology, Synge and Martin were awarded the Nobel prize for Chemistry in 1952.



In 1943, in order to work in an area with more relevance to the war effort, Synge joined the Lister Institute of Preventive Medicine in London. He researched on the chemistry of the antibiotic polypeptides of the gramicidin-tyrocidine group. During this period good relations with the USSR meant that samples of the antibiotic gramicidin S were made available. In 1945 using paper chromatography Synge established the sequence of the amino acids in gramicidin S. For the period August 1946 - May 1947 Synge worked at the laboratory of Arne Tiselius in the Fysikalisk-Kemiska Institution, Uppsala, Sweden.

Synge left the Lister Institute in 1948 so that he could work on more immediately practical aspects of biochemistry and was given a post at the Rowett Research Institute, based in Aberdeen. He headed the Department of Protein and Carbohydrate Chemistry (later the Department of Protein and Lipid Chemistry, then the Department of Protein Chemistry). In 1965 Synge was appointed Deputy Director of the Institute. His research concentrated on the digestion of proteins, chiefly though not exclusively leaf proteins.

During his time at the Rowett Research Institute Synge made a number of extended visits abroad. In 1958 he was invited to New Zealand by the New Zealand Department of Agriculture to help in investigating the cause and possible cure for facial eczema in sheep. He arrived in November 1958 and spent several months working with E.P. White on isolating and studying the poisonous fungus *Sporidesmium bakeri*. In 1965 and 1966 Synge visited India, on both occasions as a guest of the Indian Statistical Institute, studying problems of tropical agriculture. He returned for a shorter visit in 1970.

Synge worked at the Rowett Research Institute until 1967 when he joined the Agricultural Research Council's new Food Research Institute in Norwich. S.R. Elsdon, his former colleague from the Cambridge Biochemistry Department, was Director of the Institute. Here Synge worked on the combination of phenolic compounds of plants with proteins and also, in a rather new area, problems relating to the electronic storage and retrieval of information on the structure of organic chemical compounds. In 1968 Synge was appointed Honorary Professor of Biology at the University of East Anglia, a post he held until 1984. Synge retired from the Institute in 1976 but continued to research until his death on 18 August 1994.

Synge was elected to the Fellowship of the Royal Society in 1950 and two years later he and Martin were jointly awarded the Nobel Prize for Chemistry for their invention of partition chromatography. Among other honours, he was made a Fellow of Trinity College Cambridge in 1972.



Synge was on the political Left and in the 1930s and 1940s was a member of the Communist Party. This led to him being refused entry to the United States in 1949. In his later life he was active in the peace movement, as a member of the organisation Scientists Against Nuclear Arms and the Norwich branch of the Campaign for Nuclear Disarmament.

#### DESCRIPTION OF THE COLLECTION

The material is presented in the order given in the List of Contents. It covers the period 1892-1996. This large collection is uneven in its coverage but papers survive from all phases of Synge's life and career.

Section A, Biographical, is extensive. The personal material includes pocket diaries 1926, 1945-1992. There are records of Synge's childhood in the form of school work, reports and printed material, and of his time as an undergraduate at Trinity College Cambridge, principally his lecture notes and work sheets. Documentation of Synge's later career, honours and awards is patchy but there is material relating to the award of the 1952 Nobel prize for Chemistry to Synge and A.J.P. Martin. There is much family material, including correspondence between his parents during their courtship and after their marriage, and their correspondence with him, including many letters during Synge's time at Old Hall School, Winchester College and Trinity College. Family material also includes correspondence with his wife Ann and his sisters Anthea and Katharine. Synge's political interests are not particularly well documented although there is material relating to the Communist Party in the 1940s, the Society for Cultural Relations with the USSR 1946-1955 and to his later links with the peace movement including Scientists Against Nuclear Arms 1981-1991. The section also includes many photographs.

Section B, Lister Institute of Preventive Medicine, is slight. It includes correspondence and papers relating to Synge's appointment including his statement of proposed work, inventories of equipment and chemicals, and miscellaneous administrative material. There are also papers relating to Synge's visit to Tiselius's laboratory at the Fysikalisk-Kemiska Institution in Uppsala, Sweden.

Section C, Rowett Research Institute, presents documentation of Synge's appointment to the Institute, his headship of the Department of Protein and Carbohydrate Chemistry - including research programmes, equipment and staff, the Agricultural Research Council Visiting Groups to the Institute, and administrative material including sets of Institute notices and circulars. There is also material relating to the Institute's Strathcona Club of which Synge was a loyal member, and a little memorabilia.



Section D, Food Research Institute, is not extensive. It includes correspondence and papers relating to Synge's appointment including his plan of research, comments on Lord Rothschild's 1971 Green Paper *A Framework for Government Research and Development*, administrative papers from the Chemistry Division, and project reports on Synge's research.

Section E, Research, comprises notebooks and research notes. The notebooks document Synge's research from postgraduate studies in the mid 1930s, through work for the Wool Industries Research Association in Leeds - including the invention and development of partition chromatography, the Lister Institute, Rowett Research Institute and Food Research Institute, to post-retirement work in the 1990s on electronic storage of chemical information. The bulk of the notebooks forms a sequence I-XXVII running from 1938 to *ca* 1979. There are also notebooks used for references from searches of the Science Citation Index and notebooks used by three collaborators, J.C. Wood, M.A. Youngson and S. Matai. The research notes cover the period 1938-1987. They include reports on work on proteins for the Wool Industries Research Association 1938-1943, wartime work on grass protein 1939-1943 and gramicidin S 1944-1946, studies on the nutritive value of by-products of the herring industry 1949-1951, and papers relating to computer searching for chemical information searches 1981.

Section F, Publications, lectures and broadcasts, documents some of Synge's scientific publications 1940-1992, public lectures 1942-1983 and broadcasts 1947-1961. The publications material is not comprehensive. There are relatively few drafts of Synge's biochemistry publications and the best documented work is Synge's 1990 article '25 years of *Science Citation Index* - some experiences'. There are translations of articles in the Soviet scientific literature on gramicidin S and correspondence and papers relating to the possible translation from the Russian of *Mikhail Semenovitch Tsvet 1872-1919* by E.M. Senchenkova. There is also editorial correspondence. Lectures material includes documentation of some of the many public and invitation lectures Synge gave to local and university branches of learned societies and professional associations. They include his 1951 Second P.F. Frankland Memorial Lecture. 'Biological aspects of proteins in the light of recent chemical studies' to the Royal Institute of Chemistry and the Institution of Electrical Engineers. Again, there are few drafts, the bulk of the material is correspondence regarding arrangements. The section also includes drafts found in Synge's two folders inscribed 'Unpublished etc' including book reviews and drafts on the history of science, and a set of the collected off-prints of Synge's published work.

References to Synge's publications in this catalogue refer to the List of Publications at A.1 and appear in the form *Bibliog.* ...



Section G, Visits, conferences and travel, covers the period 1945-1992. The most extensively documented visit is Synge's extended stay in New Zealand 1958-1959. There is correspondence relating to arrangements, documentation of Synge's research and material relating to other engagements fulfilled during his stay. There is also material relating to the return journey, including travel on the Trans-Siberian railway. Other visits for which significant documentation survives are the 1955 International Wool Textile Research Conference in Australia, the International Symposium on the Origins of the Earth, Moscow, USSR, 1957, Synge's visits to India as a guest of the Indian Statistical Institute in 1965, 1966 and 1970, and his visit to Cuba in May 1969. There is also material relating to Synge's award of the Nobel Prize. He attended gatherings of Nobel laureates at Lindau, West Germany on several occasions and returned to Stockholm for other Nobel-related events.

Synge often took his family on his visits and this is sometimes reflected in the material.

Section H, Societies and organisations, documents Synge's involvement with 24 UK and overseas organisations from ca 1936 to 1993. There is material relating to the Agricultural Research Council, principally the Ruminant Metabolism Group 1949-1953 and N.W. Pirie's proposals for research on the extraction of leaf protein 1951-1953. Also well-documented is the Association of Scientific Workers 1938-1966. Synge was an enthusiastic supporter of the Association and served as a Vice-President from 1954. Other bodies for which there is significant material are the Biochemical Society - Synge served on the Editorial Board of the *Biochemical Journal* 1949-1955, the British Nutrition Foundation - Synge was a scientific governor of the Foundation 1974-1979, the Royal Society, and the Royal Society of Chemistry - particularly relating to its Chemical Information Group, 1984-1987.

Section J, Correspondence, is substantial and important. There is a main sequence of principal correspondents including A.C. Chibnall, S.R. Elsdon, Hugh Gordon, Dorothy Hodgkin, J.H. Humphrey, H.R. Marston, A.J.P. Martin, Stanford Moore, N.W. Pirie, P.L. Robinson, F. Sanger and Arne Tiselius. There is also a chronological sequence of shorter scientific correspondence, requests for off-prints, and references and recommendations.

There is also an index of correspondents.

#### LOCATIONS OF FURTHER MATERIAL

Correspondence from Synge to Pamela L. Robinson is held with the Robinson papers at the Palaeontology Library, Natural History Museum, London.



Synge's Winchester College Senior Science Prize project, 'Experiment on the Viscosity of Gases', 1932, is held in Winchester College archives.

A facsimile letter from Charles Darwin to George Rolleston dated 1876, found with the papers, has been added to the files of the Darwin Correspondence Project at Cambridge University Library.

Dr R.W.A. Oliver, Honorary Archivist of the Biochemical Society, has arranged for the deposit of Synge's chemicals and apparatus with the Biochemical Society, London.

#### ACKNOWLEDGEMENTS

We are very grateful to Dr Ann Synge, Dr Elizabeth Smith and Dr Charlotte Synge for making the material available and to Dr S.R. Elsdon and Dr Smith for their advice and encouragement.

Timothy E. Powell  
Peter Harper  
Adrian Nardone  
Alan Hayward  
Bath 1998

**SECTION A**

**BIOGRAPHICAL**

**A.1-A.489**

The material is presented as follows:

A.1-A.77	BIOGRAPHICAL AND PERSONAL
A.78-A.116	CHILDHOOD AND SCHOOLDAYS
A.117-A.153	UNDERGRADUATE
A.154-A.211	CAREER, HONOURS AND AWARDS
A.212-A.354	FAMILY
A.355-A.369	PERSONAL CORRESPONDENCE
A.370-A.377	REQUESTS FOR AUTOGRAPHS
A.378-A.428	PERSONAL INTERESTS
A.429-A.435	FINANCIAL AND BUSINESS
A.436-A.442	MISCELLANEOUS
A.443-A.470	PHOTOGRAPHS
A.471-A.489	K.C. SYNGE'S DIARIES

## Biographical

<b>A.1-A.77</b>	<b>BIOGRAPHICAL AND PERSONAL</b>	<b>1926-1996</b>
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- |           |  |
|-----------|--|
| A.1-A.4   | Memoirs and obituaries                               |
| A.5-A.16  | Biographical and historical accounts and information |
| A.17      | Bibliographies                                       |
| A.18-A.77 | Diaries  |

<b>A.1-A.4</b>	<b>Memoirs and obituaries</b>	<b>1994, 1996</b>
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- |     |  |
|-----|--|
| A.1 | 'Richard Laurence Millington Synge' by Hugh Gordon, <i>Biographical Memoirs of Fellows of the Royal Society</i> <b>42</b> (1996), 455-479. |
|-----|--|

Includes list of Synge's publications. References to Synge's publications in this catalogue refer to this list and appear in the form *Bibliog.* ...

- |     |   |
|-----|---|
| A.2 | Obituaries:<br><br>EEN [ <i>Eastern Evening News</i> ], 23 August 1994.<br><br><i>Eastern Daily Press</i> , 24 August 1994.<br><br><i>Independent</i> , 24 August 1994. |
|-----|---|

- |     |  |
|-----|--|
| A.3 | 3pp typescript draft obituary for <i>The Times</i> . |
|-----|--|

- |     |  |
|-----|--|
| A.4 | 4pp manuscript notes on Synge and his interests for obituary notice. |
|-----|--|

<b>A.5-A.16</b>	<b>Biographical and historical accounts and information</b>	<b>1953-1994</b>
-----------------	---	------------------

- |     |   |
|-----|---|
| A.5 | 'Synge, Richard L(aurence) M(illington)', <i>Current Biography</i> <b>14</b> (November 1953), pp 58-60. |
|-----|---|



### Biographical

- A.6 'Reminiscences of my time at the Lister Institute (1943-8)'.  
5pp typescript account, October 1966. With brief correspondence from M.G. Macfarlane 1966.
- A.7 'Richard L.M. Synge britischer Biochemiker'.  
2pp photocopy from German biographical dictionary, 1979.
- A.8 'Synge, Richard Laurence Millington', *McGraw-Hill Modern Scientists and Engineers* (1980), pp 180-181.
- A.9 'Richard Laurence Millington Synge', *Biographical Dictionary of Nobel Laureates in Chemistry* (1993).  
Correspondence; proof.
- A.10 'The Biochemistry Department at the Lister Institute, Chelsea (1940-1975)' by W.M. Watkins, *Biochemist* **15** (Dec/Jan 1993/94).  
Includes Synge's reminiscences.  
Photocopy, brief correspondence *re* Synge's contribution.
- A.11 'New Zealand, New Zealanders and the Royal Society'.  
Extract from article referring to Synge, 3 May 1994.
- A.12 Requests for biographical information, for reference books and articles and from individuals, 1953-1992.
- A.13 Requests to use photographs and pictures of Synge, 1952-1993.  
Includes correspondence *re* UK stamp featuring Synge and A.J.P. Martin, 1977.

### Biographical

A.14, A.15      Anecdotes.

A.14      1990 diary used by Synge for anecdotes about colleagues and acquaintances. Includes intercalated material.

A.15      Index to A.14 (index cards).

A.16      Curriculum vitae, 1959.

**A.17      Bibliographies**

Lists of publications covering 1937-1952, 1953-1961, 1961-1968, 1969-1980, 1980-1992.

**A.18-A.77      Diaries      1926, 1945-1992**

A.18-A.65      Pocket diaries

A.66-A.77      Desk diaries

A.18-A.65      Pocket diaries      1926, 1945-1992

Used for notes on domestic and travel arrangements.

A.18      1926.

A.19      1945.

A.20      1946 (blue).

**Biographical**

A.21                      1946 (red).

A.22                      1947.

A.23                      1948.

A.24                      1949.

A.25                      1950.

A.26                      1951.

A.27                      1952.

A.28                      1954.

A.29                      1955.

A.30                      1956.

A.31                      1957.

A.32                      1958.

A.33                      1959.



**Biographical**

A.34 1960.

A.35 1961.

A.36 1962.

A.37 1963.

A.38 1964.

A.39 1965.

A.40 1966.

A.41 1967.

A.42 1968.

A.43 1969.

A.44 1970.

A.45 1971.

A.46 1972.

A.47 1973.

**Biographical**

A.48 1974.

A.49 1975.

A.50 1976.

A.51 1977.

A.52 1979.

A.53 1980.

A.54 1981.

A.55 1982.

A.56 1983.

A.57 1984.

A.58 1985.

A.59 1986.

A.60 1987.

A.61 1988.



**Biographical**

A.62 1989.

A.63 1990.

A.64 1991.

A.65 1992.

A.66-A.77 Desk diaries 1968-1977, 1980, 1981

Used for notes on research work, university commitments, conferences etc.

A.66 1968.

A.67 1969.

A.68 1970.

A.69 1971.

A.70 1972.

A.71 1973.

A.72 1974.

A.73 1975.

**Biographical**

A.74 1976.

A.75 1977.

A.76 1980.

A.77 1981.

**A.78-A.116**

**CHILDHOOD AND SCHOOLDAYS**

**1919-1945**

A.78-A.82 General

A.83-A.100 Old Hill Preparatory School

A.101-A.116 Winchester College

**A.78-A.82**

**General**

**1922-1926**

A.78 Softback notebook used by Synge for his record of 'A Scotch Tour June 1922'.

A.79 Softback pocket notebook used for pocket money accounts 1922-1923.

A.80 Softback 'Nature Note Book' used by Synge for his record of 'Our tour on the Roman Wall', April 1926.

A.81 Memorabilia of Synge's Confirmation into the Church of England, 8 December 1926.

A.82 Softback pocket notebook used by Synge as diary 12-22 August [192?].



**Biographical**

<b>A.83-A.100</b>	<b>Old Hall Preparatory School</b>	<b>1919-1945</b>
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Synge was at Old Hall School, Wellington, Shropshire 1923-1928.

For correspondence with his parents while at Old Hall see A.265-A.273 and A.280-A.281.

A.83	School brochures, 1919.
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A.84-A.88	Synge's termly school reports and examination results 1923-1928.
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A.84	1923-1924.
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A.85	1925.
------	-------

A.86	1926.
------	-------

A.87	1927.
------	-------

A.88	1928.
------	-------

A.89	Drawing book, used by Synge summer term 1924.
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A.90-A.92	School work. 3 folders.
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Manuscript notes etc. The material was found in disorder and may possibly include work done at Winchester College.

A.93	Miscellaneous manuscript material, including sketch-map of area near Old Hall.
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A.94-A.97	Issues of <i>Old Hall School Record</i> 1923-1928 and 1941-45. 4 folders.
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### Biographical

A.98, A.99      Issues 1-9 and 11 of 'Old Hall Times', 12 February - 12 October 1927. 2 folders.

A.100      Synge's score cards from Old Hall Golf Club.

**A.101-A.116      Winchester College      1927-1933**

Synge came first in the entry examinations for scholarships to Winchester College in 1928. He was at school at Winchester from 1928 until 1933 when he entered Trinity College Cambridge.

A.101      Letter *re* possible entrance to Winchester College in 1927; entry regulations and examination papers for scholarships and exhibitions to Winchester College, June 1928; notification of first place in examinations, 9 June 1928 and newspaper cutting.

A.102, A.103      Letters and telegrams of congratulation to Synge and his parents, June 1928. 2 folders.

A.104, A.105      Synge's termly reports 1928-1933.

A.104      1928-1930.

A.105      1931-1933.

A.106-A.109      School work.

A.106      Exercise book used by Synge for essay on 'The Mediaeval Crusader', possibly entered for school prize 1930. Marked.

A.107      ?Draft manuscript essay on 'The Crusading Age'.

A.108      Manuscript essay on 'Autumn'. Marked.



### Biographical

- A.109 Manuscript play 'New Wine (scenario for a talking film by R.L.M. Synge)'. Marked.
- A.110 Winchester College Rolls 1929, 1930.
- A.111 Winchester College calendars, 1932, 1933.
- A.112 Synge's Oxford and Cambridge Schools Examination certificate, 1930; Winchester College examination papers in Hinduism 1933; papers for ?oral examinations 1933; newspaper cutting recording School Speech Day at Winchester College (Synge received the Science Prize).
- A.113 Officer Training Corps examination and certificate, 1930.
- A.114 Programmes etc for social and other occasions.
- A.115 Miscellaneous receipts.
- A.116 Manuscript poem 'The Compleat Bolshevik'.

A.117-A.153

### UNDERGRADUATE

1931-1936

In 1931 Synge won an Exhibition to Trinity College Cambridge to study classics. However, he decided instead to study biochemistry. Synge entered Trinity College in 1933, graduating with First Class in the Natural Sciences Tripos in 1936.

- A.117 Papers for entrance scholarship examination, December 1931; notification of Exhibition, 18 December 1931; telegrams.

### Biographical

- A.118 'Shorthand Note Book' used by Synge for notes on lectures on Statistical mechanics by E.C. Stoner.
- A.119-A.121 'Miscellaneous notes - NW Pirie - Peptidases, S Cpd. FG Hopkins "Living Stuff" RLMS - Carbohydrate-proteins (NWP)'. Contents of Synge's envelope so inscribed divided into three for ease of reference.
- A.119 'Living Stuff', 6pp typescript of lecture by F.G. Hopkins; typescript and duplicated typescript notes on isolation of organic compounds. N.d.
- A.120, A.121 Manuscript and typescript notes on the literature, latest bibliographical reference 1932. 2 folders.
- A.122-A.132 Manuscript lecture and other notes.  
Arranged alphabetically by subject. Some have the name of the lecturer.
- A.122 'Biochemistry of nervous system'.  
'Carcinogenic hydrocarbons & the sterols (Prof. Cook)'.  
'Holmes. "Cell pathology" '.  
'Chemical aspects of protein study - final revision'.
- A.123 'Chemical embryology'.  
'Aspects of CO<sub>2</sub> transport'.  
'[E.] Baldwin Comparative biochemistry'.
- A.124 'Deviations from Mass Law'.  
'Electromagnetic theory of light'.  
'Enzymes'.



## A.125

'Evaluation of  $p^1$ '.

'Glycolysis in Chick embryo'. (Not in Syngé's hand).

'Haemoglobin ([R.A.] Millikan)'.

A.126

'Haemoglobin'.

'Intermediary metabolism'.

'Mercapturic acid'.

'Metabolism of fatty acids'.

'Metabolism of micro-organisms (Miss [M.] Stephenson)'.

A.127

'Morphogenetic fields'.

'Muscle biochemistry'.

'Work on muscle metabolism'.

A.128

'Nitrogen excretion'.

'Oxidation & reduction in the living cell ([M.] Dixon)'.

'Oxidation-reduction potentials - Dr M. Dixon'.

'Oxidation reduction potential, & pH'.

A.129

'Phosphorylation of adenylic acid by phosphocreatine'. Dated 2 December 1935.

'Physio-chemical medium of self-differentiation'.

'Pigments'.

'Plant biochemistry ( [R.] Hill)'.  
[R.] Hill

A.130	<p>'Proteins ( [G.S] Adair)'.          'Green - Reconstruction of Lactic dehydrogenase system of muscle'.          'Diagrams of sterol chemistry'.</p>
A.131	<p>'Thermodynamical proofs in Physical Chemistry'.          'Transport of gases in blood &amp; other applications of physical chemistry (see Rideal's lectures on surface chemistry)'.          'Uric acid synthesis in birds'.</p>
A.132	<p>'Vitamins (Dr Harris)'.          Untitled.</p>
A.133-A.138	<p>Manuscript and typescript notes on practical work. Not all dated.          A.134-A.138 arranged in alphabetical order by subject.</p>
A.133	<p>'Practical work'. 11 October - November [?1935].</p>
A.134	<p>'Practical work on bacterial metabolism'. 29-31 January, 6-7 February and 10-12 February 1936.</p>
A.135	<p>'Practical work on biological oxidations'. 13-19 February 1936.</p>
A.136	<p>'Practical work on enzymes'. 3-5 February 1936.          'Work on Frog's heart'. 25-29 November [?1935].</p>
A.137	<p>'Practical work on pigments (Mr [R.] Hill'. 20 January 1936.          'Practical work in plant biochemistry'.          'Practical work on plant pigments'.</p>



### Biographical

- A.138                    'Practical work on mineral metabolism'. 7-13 November.  
                             'Practical work on vitamin C'.
- A.139-A.143            Bound volumes of duplicated typescript work sheets for practical work *ca*  
1934-1935.
- A.139                    Hardback 'Part I. Biochemistry Practical Work Michaelmas Lent and Easter  
Terms 1934-5'.
- A.140                    Softback 'Experimental physiology Course A. Lent term, 1934'.
- A.141                    Softback 'Course A. Easter term 1934. Experimental physiology'.
- A.142                    Softback 'Course B. Easter term 1935. Experimental work'.
- A.143                    Softback 'Experimental physiology. Michaelmas term'.
- A.144-A.150            Duplicated typescript and typescript work sheets and hand-outs. 7 folders.  
Some manuscript notes interleaved.
- A.151                    Natural Sciences Tripos examination papers 1936.
- A.152                    Synge's manuscript notes on 'N.S.T. pt II Written papers in Biochemistry  
(1932-1935)'.
- A.153                    Telegram from Synge to his parents informing them of first class in Part I  
(June 1935); letter of congratulation to Synge's father on Synge's First Class  
degree, June 1936.

### Biographical

A.154-A.211

#### CAREER, HONOURS AND AWARDS

1936-1992

A.154

Offer of post in Sheffield working on haemophilia under Dr Timperley, 18 November 1936.

A.155-A.157

Postgraduate research 1936-1940.

After graduation Synge stayed in Cambridge, studying in the Department of Biochemistry under the supervision of N.W. Pirie. Supported by a Benn Levy studentship he researched on protein analysis, in particular the separation of acetyl-amino acids. Contemporary techniques for separating biological substances into its component chemicals were insufficient for Synge's needs and he contacted A.J.P. Martin, also working in Cambridge, who had devised apparatus for the extraction of vitamin E. They collaborated to build more a sophisticated equipment for extraction. In 1938 Martin moved to the Wool Industries Research Laboratories in Leeds where he was joined shortly afterwards by Synge, who had been given a grant from the International Wool Secretariat to continue their joint research. They built an extended mechanism for their extraction work. Synge received his Ph.D. in 1940.

A.155

Benn Levy Studentship, 1937-1938. Newspaper cutting only.

Miscellaneous Department of Biochemistry material 1938-1939. Includes song referring to members of the Department.

A.156

Telegram and letter *re* Synge's International Wool Secretariat fellowship, June 1938.

A.157

'Some new methods in amino-acid analysis: the amino-acid composition of wool', Synge's Ph.D. thesis, submitted 1940.

A.158

Papers *re* employment by the Wool Industries Research Association (WIRA), 1940-1941.

After receiving his Ph.D. in 1940 Synge remained at Leeds working on chemistry of silk and wool until 1943. He was appointed Biochemist with WIRA in 1941.



### Biographical

- A.159                      Exchange with ICI *re* possible employment opportunities, October 1941.  
  
                                 Synge was looking for a post with more relevance to the war effort.
- A.160                      Miscellaneous papers *re* anti-aircraft training and war service with the Home Guard, 1942-1944.  
  
                                 Synge served with the 101 (County of London) Anti-Aircraft Rocket Battery. It stood down in November 1944.
- A.161                      Election to Life Membership of the French Société de Chimie Biologique, 31 August 1945.
- A.162                      Offers of appointment:  
  
                                 Faculty of Medicine, University of Western Ontario, Canada, 1947.  
  
                                 Senior Principal Research Officer, Division of Plant Industry, CSIRO, Australia, 1952.
- A.163-A.165              Election to Fellowship of the Royal Society, 1950.
- A.163                      Letter from A.C. Chibnall *re* nomination, 5 October 1949.
- A.164, A.165              Letters of congratulation, 1950-1951. 2 folders.  
  
                                 In chronological order.
- A.166                      Appointment as Deputy Chief Scientific Officer, Rowett Research Institute, Aberdeen, 28 July 1952.

### Biographical

- A.167-A.194 Nobel Prize for Chemistry, 1952.
- Synge and A.J.P. Martin were awarded the Nobel prize 'for their invention of partition chromatography'. Synge was accompanied on his visit to Stockholm for the award ceremonies by his wife and children. After the ceremonies and other events in Sweden Synge and his family went to Norway for a skiing holiday.
- A.167 Notification of award, November 1952.
- A.168-A.175 Letters of congratulation, October 1952 - February 1953, n.d. 8 folders.
- In chronological order. Unindexed.
- A.176 Correspondence *re* travel etc arrangements for Sweden and Norway. Includes letters from family members invited by Synge to accompany him.
- A.177, A.178 Correspondence and papers *re* Nobel prize ceremony and related arrangements. 2 folders.
- A.179 Nobel speech.
- The speech was given at the Nobel banquet following the award ceremony.
- 2pp typescript of Synge's speech (in Swedish); manuscript notes.
- A.180 Correspondence *re* publication of Synge's Nobel speech and lecture, January - August 1953.
- A.181 Invitations to other social functions in Stockholm.
- A.182 Correspondence *re* lectures to other organisations in Sweden.
- Synge lectured to Clarté, a student peace movement, in Uppsala and was invited to give a speech to the Frälsningsarmén (Salvation Army), Stockholm.

### Biographical

- A.183, A.184      Broadcasts.
- A.183      'Chromatography', BBC Radio Swedish Service, 7 December 1952.  
Correspondence; rough manuscript draft.
- A.184      Radio interview with Norsk Rikskringkasting, December 1952.  
Invitation; manuscript notes.
- A.185      Contribution to Swedish peace journal *Leva i Fred*.  
Synge was asked to send a message for the Christmas issue of the journal.  
Correspondence; draft and final copy of Synge's message.
- A.186      Miscellaneous correspondence *re* Nobel prize and Synge's visit to  
Scandinavia, October 1952 - March 1953, n.d.
- A.187      Correspondence arising from award, 1956-1965, 1991. Includes  
correspondence *re* re-publishing Synge's Nobel lecture and speech.
- A.188-A.190      Diary and accounts of visit.
- A.188      Hardback notebook used by Ann Synge as diary of visit, 6-31 December  
1952.
- A.189      Incomplete letter by Ann Synge to 'Mother' dated 20 December 1952 giving  
detailed account of the visit to date; manuscript notes by Synge.
- A.190      Incomplete manuscript accounts by Ann Synge.



### Biographical

- |             |  |
|-------------|--|
| A.191-A.194 | Memorabilia  |
| A.191-A.193 | Scrap-books of newspaper cuttings and other memorabilia, numbered by Synge 1-3.  |
| A.191       | '1'.   |
| A.192       | '2'.   |
| A.193       | '3'.   |
| A.194       | 'Om fördelningskromatografi. Nobelpriset i kemi 1952' by W. Forsling, <i>Särtryck ur Elementa</i> (1953); Wool Industries Research Association <i>Bulletin</i> 15 (1953), with article on the Nobel Prize for Chemistry 1952, pp.11-13; sketch of Synge and his wife in Sweden; comic songs by D.L. Mould and A.T. Phillipson celebrating Synge's achievements; signed menu from celebratory dinner in Aberdeen, 26 November 1952. |
| A.195       | Offers of appointment:<br><br>Chair of Biochemistry, University of Sheffield, 1954.<br><br>Chair of Biochemistry, Imperial College London, 1955.   |
| A.196       | Honorary Member, Cambridge University Natural Science Club, 1956.  |
| A.197       | John Price Wetherill Medal, Franklin Institute, Philadelphia, 1959.<br><br>Synge was awarded the Medal jointly with A.J.P. Martin and A.T. James for 'their development of gas-liquid (partition) chromatography'.<br><br>Press release; newspaper cutting; correspondence <i>re</i> arrangements for receiving the prize; congratulations.  |

### Biographical

- A.198                      Honorary Membership, American Society of Biological Chemists, 1961.  
Letter of notification, 4 May 1961; certificate.
- Fellowship, Royal Society of Edinburgh, 1963.  
Letter of notification, 4 March 1963; certificate; congratulatory letter.
- A.199                      Offers of appointment:  
Correspondence *re* possible appointment at University of Malaya, 1965.  
Synge had expressed interest in work in a less developed country.
- Visiting Professorship of Biochemistry, University of Texas Medical Branch,  
1965.
- A.200                      Honorary Research Associate, University of Aberdeen, 1966.  
Letter of notification, 19 May 1966.
- Honorary Professorship, University of East Anglia, 1968.  
Letter of congratulation only, 30 April 1968.
- A.201                      Honorary Membership, Royal Irish Academy, 1971.  
Letter of notification, 16 March 1971.
- Life Fellow Membership, Franklin Institute, Pennsylvania, 1971.  
Letter of notification, 31 August 1971.
- A.202                      Honorary Fellowship, Trinity College Cambridge, 1972.  
Letter of notification, 4 February 1972; notes thanking Synge for gifts to the  
College, 1979 and 1981.

### Biographical

- A.203                      Honorary Membership, Royal Society of New Zealand, 1974.  
  
Letter of notification, 28 June 1974 and Synge's letter of thanks, November.  
  
Emeritus Member, Biochemical Society, 1976.  
  
Letter of notification, 26 November 1976.
- A.204                      Invitation to serve as UNESCO Consultant, Alexandria, Egypt, 5 March 1974.
- A.205                      Retirement, 1976.  
  
Two letters *re* retirement dinner, August, September 1976.  
  
Honorary D.Sc., University of East Anglia, 1976.  
  
Letter of congratulation, 24 December 1976.  
  
For photographs taken at the occasion see A.466.
- A.206                      Offer of appointment:  
  
Senior research post, National Research Council of Canada, 1 December 1977.
- A.207, A.208              Honorary D.Sc., University of Uppsala, 1980.  
  
For photographs taken at the occasion see A.468.
- A.207                      Correspondence and papers *re* arrangements,
- A.208                      Programme.
- A.209                      Honorary Life Membership, Phytochemical Society, 1982.  
  
Letter of notification, 5 May 1982.



### Biographical

- A.210                      Honorary D.Sc., University of Aberdeen, 1987.  
Correspondence and papers *re* arrangements, 1987.  
For photographs taken at the occasion see A.470.
- A.211                      The 'Synge Building', Rowett Research Institute, Aberdeen.  
Letter *re* naming laboratory building after Synge, 4 June 1992

#### A.212-A.354

#### FAMILY

1892-1990. n.d.

In its immediate past, Synge's family came from Bridgnorth in Shropshire. However, the traditional family seat was Millington in Cheshire. The name 'Millington' appeared frequently in the Synge family, being borne not only by Synge himself, his father Laurence Millington and uncle Richard Millington, but by their distant relative the playwright John Millington Synge (who came from a branch of the family that emigrated to Ireland in the seventeenth century).

In some of the earlier material the family surname is spelled 'Sing' or 'Singe', reflecting its pronunciation. The current spelling seems to have been adopted consistently only after the First World War.

- A.212-A.311      Parents
- A.312-A.329      Ann Synge (née Stephen), wife
- A.330-A.335      Children
- A.336-A.343      Sisters
- A.344-A.347      Grandparents
- A.348-A.352      Other relatives
- A.353, A.354      Miscellaneous family material

### Biographical

<b>A.212-A.311</b>	<b>Parents</b>	<b>1892-1972</b>
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Synge's parents were Laurence Millington Synge, a stockbroker in Liverpool, and Katharine Charlotte Swan. They were married in 1913 and had three children. R.L.M. Synge was the eldest and the only son.

A.212-A.239    Laurence Millington Synge

A.240-A.261    Katharine Charlotte Synge (née Swan)

A.262-A.311    Correspondence between Synge and his parents

<b>A.212-A.239</b>	<b>Laurence Millington Synge</b>	<b>1895-1940</b>
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A.212            Letters to A.M. Singe (father of L.M. Synge), March, April 1895.

A.213-A.230    Correspondence from L.M. to K.C. Synge, 1913-1914.

A.213            1913 February.

A.214            1913 March.

A.215-A.217    1913 April. 3 folders.

A.218, A.219    1913 May. 2 folders.

A.220, A.221    1913 June. 2 folders.

A.222-A.224    1913 July. 3 folders.

A.225-A.227    1913 August. 3 folders.

### Biographical

- A.228, A.229      1914 May. 2 folders.  
L.M. Synge was stationed in Co. Tipperary, Ireland, for military exercises.
- A.230      1914 July.
- A.231-A.233      War service.  
In the First World War L.M. Synge served with the 4th West Lincs (Howitzer) Brigade, Royal Field Artillery, rising to the rank of Lieutenant-Colonel. He was wounded on a number of occasions.
- A.231      Miscellaneous memorabilia, including letters to K.C. Synge *re* hospitalisation of her husband and postcards.
- A.232, A.233      Correspondence to L.M. Synge 1917-1918, n.d. 2 folders.  
Letters from fellow officers etc, some with news of the Brigade.
- A.234      Correspondence from L.M. to K.C. Synge, 1926, 1936.
- A.235      Correspondence from L.M. to K.C. Synge, 1960.
- A.236      Correspondence from L.M. Synge to Emma Henrietta Swan (L.M. Synge's mother-in-law), 1913, with draft of a letter of reply, 19 February.
- A.237      Correspondence between Mary Synge (L.M. Synge's mother) and L.M. Synge, 1929-1940.
- A.238      Correspondence and papers *re* command of Territorial Army 55th (West Lincs.) Division, 1932.  
L.M. Synge relinquished command in December 1932.



**Biographical**

A.239                      Miscellaneous personal correspondence to L.M. Synge, 1915-1943.

**A.240-A.261                      Katharine Charlotte Synge (née Swan)                      1892-1964**

For diaries of K.C. Synge see A.471-A.489.

A.240, A.241                      School reports etc, 1892-1902.

A.240                      1892-1895, n.d.

1892 report is from Notting Hill & Bayswater Kindergarten & Preparatory School.

A.241                      1901-1902.

From Hamilton House School, Tunbridge Wells, Kent.

Folder also includes extract from Class Lists from 1902 University of Cambridge Local Examinations for Girls. K.C. Swan gained honours in class II.

A.242                      Correspondence from K.C. Synge to E.H. Swan (mother), 1913, 1934.

A.243-A.246                      Letters of congratulation on and arising from engagement and marriage to L.M. Synge, February - September 1913. 4 folders.

A.247, A.248                      Marriage of L.M. and K.C. Synge, St Botolph's Church, Cambridge, 3 September 1913.

A.247                      Invitation to wedding; order of service; newspaper cutting from [?Cambridge] *Weekly News*, 5 September 1913; other memorabilia.

A.248                      Honeymoon, September 1913.

Receipts from hotels.

**Biographical**

A.249-A.251	Correspondence to K.C. Synge from L.M. and Mary Synge, 1913-1943, n.d.
A.249	1913.
A.250	1923-1930.
A.251	1935-1943, n.d.
A.252-A.255	Wartime correspondence to K.C. Synge, 1915-1918.  Includes letters from soldiers under her husband's command thanking her for gifts, and letters reporting on L.M. Synge after hospitalisation.
A.252	1915.
A.253	1916.
A.254	1917.
A.255	1918, n.d.
A.256	Correspondence to K.C. Synge from E.H. Swan (mother), 1925-1933, n.d.
A.257-A.259	Correspondence from K.C. to L.M. Synge, 1932-1941.
A.257	1932.
A.258	1933.
A.259	1934, 1941.

### Biographical

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|--------------------|--|
| A.260              | Miscellaneous personal and family correspondence to K.C. Synge, 1922-1964, n.d.  |
| A.261              | Silver Wedding Anniversary, 3 September 1938.<br><br>Telegrams, cards and letters of congratulation.                               |
| <b>A.262-A.311</b> | <b>Correspondence between Synge and his parents, 1915-1972.</b>  |
| A.262-A.279        | Letters to Synge from his parents, 1915-1959, 1966.<br><br>From 1941 the correspondence also includes letters to Ann Synge (wife). |
| A.262              | 1915-1918.   |
| A.263              | 1921.  |
| A.264              | 1922.  |
| A.265              | 1924 March - June.   |
| A.266              | 1924 July - December.  |
| A.267              | 1925 January - June.   |
| A.268              | 1925 September - October.  |
| A.269              | 1926 January - March.  |
| A.270              | 1926 May - July.   |



### Biographical

A.271 1926 September - December.

A.272 1927 February - March.

A.273 1927 October - December.

A.274 1938.

A.275 1941-1945.

A.276 1946-1948.

A.277 1949.

A.278 1950-1952.

A.279 1953-1959, 1966.

A.280-A.311 Letters from Synge to his parents, 1925-1972.

From the start Synge's letters to his parents were frequent, usually giving detailed reports of daily activities, both work and leisure.

From 1941 the correspondence also includes letters from Ann Synge (wife).

A.280 1925-1926.

A.281 1927-1929.

**Biographical**

A.282	1930.
A.283	1931
A.284	1932 February - July.
A.285	1932 September - December.
A.286	1933 January - July.
A.287	1933 August - December.
A.288	1934 January - May.
A.289	1934 July - November.
A.290	1935 January - April.
A.291	1935 May - December.
A.292	1936.
A.293	1937.
A.294	1938.
A.295	1939.

**Biographical**

A.296	1940 January - June.
A.297	1940 July - December.
A.298	1941 January - June.
A.299	1941 July - December.
A.300	1942.
A.301	1943.
A.302	1944.
A.303	1945.
A.304	1946.
A.305	1947-1950.
A.306	1951-1953.
A.307	1954-1958.
A.308	1960-1961.
A.309	1962-1965.



### Biographical

A.310 1966-1969.

A.311 1970-1972.

**A.312-A.329      Ann Synge (née Stephen), wife      1941-1985, n.d.**

Ann was born in London in 1916, the daughter of A.L. and Karin Stephen. She was already married (to [?R]. Davis) when she met Synge during her final year as a medical student in Cambridge. Ann was divorced *ca* 1942 and Synge and Ann married in 1943.

A.312 Notification of award of President's Silver Medal, Biological Society, Royal College of Physicians and Surgeons, 8 October 1941; notification of appointment as part-time Casualty Officer, Hammersmith Hospital, 3 May 1945; letter *re* vacancy at Social Medicine Research Unit, 30 December 1948.

A.313-A.322 Correspondence from Ann to Synge, 1941-1985, n.d.

From 1943 the letters are mostly to Synge when he was away attending visits and conferences.

A.313 1941.

A.314 1942.

A.315 1944-1945.

A.316 1948.

Includes one letter from Synge to Ann.

A.317 1949.

A.318 [1940s].

**Biographical**

A.319	1951-1953.
A.320	1955.
A.321	1957-1958.
A.322	1969, 1985, n.d.
A.323-A.325	Correspondence to Ann from Synge, August - October 1955.  Synge was attending the International Wool Textile Research Conference, Australia (see G.27-G.34).
A.323	August.
A.324	September.
A.325	October.
A.326	Other family correspondence to Ann Synge.
A.327-A.329	Passports
A.327	1946-1956.
A.328	1956-1966.
A.329	1966-.

## Biographical

**A.330-A.335**

### **Children**

Ann and R.L.M. Synge had eight children: Jane (born 11 April 1943), Elizabeth (3 May 1944), Thomas Millington (6 September 1945, died in childhood), Matthew Millington (25 January 1948), Patrick Millington (7 January 1951), Alexander Millington (29 May 1953), Charlotte and Mary (18 June 1955).

**A.330-A.332**

### **Jane Synge**

**1960, 1975-1976**

Jane was born in 1943. She studied at the University of Aberdeen and went on to receive her Ph.D. in 1971 from the London School of Economics. She moved to Canada, joining the Department of Sociology at McMaster University, Ontario.

A.330

Newspaper cutting from *Press & Journal*, 8 June 1960, recording Jane's bursary to the University of Aberdeen.

A.331, A.332

'Jane's reprints'. Contents of envelope so inscribed divided into two for ease of reference: copies of papers by Jane Synge 1975-1976.

**A.333**

### **Elizabeth Synge (afterwards Smith)**

**1979**

Elizabeth was born in 1944. She moved to Australia, taking up a post in the Research School of Biological Sciences, Australian National University, Canberra.

A.333

'Corr re Dictyostelium paper etc'. Correspondence *re* paper by Elizabeth Smith and K.L. Williams, 1979.

**A.334**

### **Patrick Millington Synge**

**1981-1984**

Patrick was born in 1951. He moved to Australia where he took up boat building.

A.334

Correspondence 1981-1984.



**Biographical**

**A.335                      Alexander Millington Synge                      1983, 1990, n.d.**

A.335                      Miscellaneous correspondence and papers.

**A.336-A.343                      Sisters**

**A.336-A.339                      Anthea D. Synge                      1920s-1980s**

A.336, A.337                      Correspondence to Synge, 1920s-1980s. 2 folders.

A.336                      Dated.

A.337                      Undated.

A.338                      Letters to L.M. and K.C. Synge from Anthea's landlord and landlady, 1939, 1941.

A.339                      Letters to L.M. and K.C. Synge from Anthea, 1941-1942.

The letters relate to Synge's relationship with Ann.

**A.340-A.343                      Katharine M. Synge                      1916-1991, n.d.**

A.340                      Biographical material including telegram to L.M. Synge, 15 January 1916 *re* birth of Katharine, manuscript programmes for children's plays (featuring both K.M. and A.D. Synge), 1925 and 1926, results of music examinations 1926 and 1927, letter *re* music, 9 December 1931.

A.341, A.342                      Correspondence to Synge, 1923-1991, n.d.

A.341                      Dated.

Includes letter from Synge 7 December 1928.

### **Biographical**

A.342 Undated. [?1920s].

A.343 Letters to L.M. and K.C. Synge from Katharine, 1942-1943.  
The letters relate to Synge's relationship with Ann.

#### **A.344-A.347 Grandparents**

A.344-A.346 Mary Synge (paternal grandmother)  
Principally correspondence to Synge 1921-1942, n.d.

A.344 1921-1924.

A.345 1925-1926.

A.346 1927-1942, n.d.

A.347 Emma Henrietta Swan (maternal grandmother)  
Correspondence to Synge, 1918-1940.

#### **A.348-A.352 Other relatives**

A.348 Richard Millington Synge (uncle)  
Correspondence to Synge, 1913-1949, n.d.

A.349 Karin Stephen (mother-in-law)  
Miscellaneous correspondence, 1942, 1952, n.d.

### Biographical

A.350-A.352      Miscellaneous relatives.  
Correspondence 1917-1966, n.d.

A.350      1917-1936.

A.351      1943-1949.

A.352      1950-1966, n.d.

**A.353, A.354      Miscellaneous family material**

A.353      Obituaries of John Synge (*Irish Times* 1 September 1982); Francis Millington Synge (*Irish Times*, 30 November 1983) and related correspondence 1983-1984.

A.354      Correspondence and papers *re* family history etc.

**A.355-A.369      PERSONAL CORRESPONDENCE      1920s-1991, n.d.**

In chronological order. Many of the letters are first name only and may include more distant relatives. Includes correspondence of Ann Synge's.

A.355      1920s.

A.356      1930s.

A.357      1940-1946.

A.358      1948.



**Biographical**

A.359 1949-1952.

A.360 1953-1957.

A.361 1960s-1970s.

A.362 1981-1982.

A.363 1983.

A.364 1984-1985.

A.365 1986-1987.

A.366 1988-1989.

A.367 1990-1991.

A.368, A.369 N.d. 2 folders.

**A.370-A.377**

**REQUESTS FOR AUTOGRAPHS**

**1952-1992, n.d.**

Arranged chronologically. Not indexed.

A.370 1952-1965.

A.371 1981-1984.

### Biographical

A.372 1985-1986.

A.373 1987-1988.

A.374 1989-1990.

A.375 1991.

A.376 1992.

A.377 N.d.

### A.378-A.428 PERSONAL INTERESTS

A.378-A.418 Politics

A.419-A.426 Travel

A.427 Cairngorm Club

A.428 Volunteers for Ionising Radiation

### A.378-A.418 Politics 1938-1992

Synge was on the political Left. He was a member of the Communist Party in the 1930s and 1940s. His later political activity concentrated on the peace movement and organisations concerned with human rights.

A.378-A.382 Correspondence and appeals

A.383-A.412 Organisations and concerns

A.413-A.415 Drafts

A.416-A.418 Miscellaneous

### Biographical

<b>A.378-A.382</b>	<b>Correspondence and appeals</b>	<b>1938-1991, n.d.</b>
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A.378	1938-1954
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Includes letter from J. Needham *re* possible nomination of Synge as Britain-China Friendship Association delegate to China, 6 September 1951.

A.379	1965-1981.
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A.380	1982-1983.
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A.381	1984-1986.
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A.382	1987-1991, n.d.
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<b>A.383-A.412</b>	<b>Organisations and concerns</b>	<b>1943-1992</b>
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In alphabetical order.

A.383	British Peace Committee	1952-1960
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Includes correspondence *re* meeting addressed by Linus Pauling, to be chaired by Synge, July 1960.

A.384	Common Voice	1988-1992
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Common Voice was an organisation formed after the 1987 General Election to encourage cooperation between the Labour and Liberal Democrat parties to defeat the Conservative government at the next General Election.

A.385-A.390	Communist Party of Great Britain	1943-1945
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Synge was a member of the Communist Party in the 1930s and 1940s. In early 1945 he was asked to assist in drafting the Party's policy on science for a meeting on 13 May.



### Biographical

- A.385-A.387      Papers *re* science policy memorandum, 1945.
- A.385      Letter to Synge *re* proposed memorandum on science; paper 'Organisation and Finance of Science (delivered to A. Sc. W. Conference, "Science in Peace", 18-2-45)', 12pp; agenda for meeting, 13 May with 'Suggestions for completing the proposed memorandum on science', 20 March.
- A.386      'Draft memorandum on science' by Lilley, 13 April, 29pp duplicated typescript.
- A.387      'Draft memorandum on science', anon, n.d., 14pp duplicated typescript.
- A.388-A.390      Communist Party pamphlets.
- A.388      'Unity and Victory. Report of the 16th Congress of the Communist Party, 1943'.
- A.389      'Take over the mines! The case for nationalisation' by Harry Pollitt, 1944.
- A.390      'How to win the Peace' by Harry Pollitt, 2nd edition 1944.
- A.391      Fabian Society      1947-1948  
Correspondence and papers *re* Fabian Society Conference on the Industrial Future of Great Britain. Synge spoke on 'Changes to be expected due to technical developments in Chemistry and Biochemistry'.
- A.392      International Campaign - Orlov and Shcharansky      1985, 1987  
Circulars.
- A.393      International Sacharov Tribunal of Conscience and Peace      1980  
Correspondence and papers.

**Biographical**

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|--------------|--|------------|
| A.394        | J.D. Bernal Peace Library  | 1973       |
|              | Letter <i>re</i> Trustees meeting; notice of Peace Scholarship, 1973.  |            |
| A.395        | Medical Aid for Vietnam  | 1976-1977  |
|              | Correspondence and papers.   |            |
| A.396        | Norwich and District Peace Council   | 1985, n.d. |
|              | Papers.  |            |
| A.397-A.402  | Scientists Against Nuclear Arms (SANA)   | 1981-1991  |
|              | SANA was founded in 1981 to promote and coordinate the activities of scientists involved in the peace movement. Synge was a Sponsor.   |            |
| A.397-A.399  | Circulars 1981-1991. 3 folders.  |            |
| A.400-A.402  | Newsletters 1982-1991. 3 folders.  |            |
| A.403-A.408  | Society for Cultural Relations with the USSR (SCR)   | 1945-1955  |
|              | Although Synge had made use of its Library of translations of articles from Soviet periodicals earlier, Synge only joined the SCR in 1953. He was a member of the Science Section. |            |
| A.403        | Invitation to join SCR and related correspondence April-May 1953; correspondence and circulars 1955.   |            |
| A.404, A.405 | SCR Science and Engineering Section Bulletins.   |            |
| A.404        | February and June 1953.  |            |
| A.405        | October 1953, February 1954.   |            |

### Biographical

- A.406 SCR Soviet Science Bulletins, August 1954 - February 1955.
- A.407, A.408 SCR Translation Library.
- A.407 Accession lists, September-October 1945 - April-July 1948.
- A.408 Accession lists April 1953; other lists of translations available.
- A.409 United Nations Association 1986  
Letter *re* membership.
- A.410, A.411 World Council of Peace 1954  
Material *re* presentation of one of the World Council of Peace's 1953 International Peace Prizes to Charlie Chaplin. Synge was one of the Council's representatives at the award ceremony, which took place at Chaplin's home in Switzerland.
- A.410 World Council of Peace Bulletin 12 (June 1954), with feature about the award on pp.24-25; 4 photographs from the ceremony.
- A.411 Issue of *Défense de la Paix*, July 1954, with article 'Charles Chaplin, l'ami des hommes', on pp.9-17. Includes photographs, one featuring Synge.
- A.412 World Disarmament Campaign 1982  
Invitation to act as Advisor to the Campaign, 3 December.
- A.413-A.415 Drafts 1939, 1969, n.d.**
- A.413 'Chemistry and the nature of living matter' by Synge, contribution to Marx House Faculty of Science meeting on Marxism and Science, August 1939, submitted for publication to *Science & Society*.  
  
6pp typescript with manuscript corrections; summaries of papers given at Marx House symposium; manuscript comments from B.C.J.G. Knight; letter from *Science & Society*, 22 July 1940.



### Biographical

- A.414 'The scientist's responsibilities', address for National Conference of Science for Peace, 14 March 1953. Subsequently published in *Nature* **172**, 11 July 1953 but not listed in *Bibliog*.
- 9pp typescript + introduction.
- 'Nationalisation of railways', n.d.
- 6pp typescript with manuscript annotation.
- A.415 'Fifty years of Soviet science' by Synge, contribution to Symposium on the [Russian] Revolution.
- 12pp typescript + references; letter *re* non-publication, 17 June 1969.
- A.416-A.418                      Miscellaneous**
- A.416 5pp duplicated typescript syllabus of unidentified three-day course on Marxism, *ca* 1930s.
- Manuscript draft of telegram to peace congress, Vienna, Austria, 15 December 1952.
- A.417 Songs:
- 'My cousin's an agent for Franco' and 'As I stroll around the Kremlin with a non-committal air', 1p typescript, *ca* late 1930s.
- 'Three Press Lords', 1p typescript, *ca* 1939.
- 'John Bull and the New Taxes', 1p typescript, copy of ?1840s ballad.
- A.418 Synge's manuscript list of English parliamentary constituencies after the 1983 or 1987 General Election indicating actual and 'pot[ential]' winners of the each seat.

### Biographical

<b>A.419-A.426</b>	<b>Travel</b>	<b>1931-1980</b>
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Synge was interested in travel from an early age and his love of journeying continued throughout his life. He made a number of long visits to attend scientific meetings, usually taking his family with him.

The bulk of the material relating to Synge's visits is to be found in section G.

A.419	Manuscript notes on railway journeys: Winchester - Chester <i>ca</i> 1930, Manchester - London Marylebone, 18 September 1931, list of 'Railway journeys during 1931', Leicester - London St Pancras, 20 January 1932.
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A.420	Synge's hand-drawn map of rail network around Manchester.
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A.421	Manuscript list of 'Control's Longer Journeys', <i>ca</i> 1937.  'Control' was the name Synge and A.H. Gordon gave to their shared car at Cambridge. The list covers the period December 1934 - January 1937.
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A.422	Hardback notebook inscribed inside front cover 'Log Book Bedford Dormobile SU 6731'. Used for record of 'Petrol and routes' November 1953 - October 1958.
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A.423-A.426	Passports, 1945-1980.
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A.423	1945-1955.
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A.424	1955-1960.
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A.425	1960-1970.
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A.426	1970-1980.
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### Biographical

**A.427                      Cairngorm Club                      1987-1992**

Syngé joined the Cairngorm Club while working at the Rowett Research Institute. He retained membership to his death.

Circulars.

**A.428                      Volunteers for Ionising Radiation (VIR)                      1986-1990**

VIR was established in 1986 by Sir Frederick Warner who wrote to Fellows of the Fellowship of Engineering and the Royal Society calling for volunteers over the age of 65 prepared to act in emergencies where there was a high level of ionising radiation.

Correspondence and circulars.

**A.429-A.435                      FINANCIAL AND BUSINESS                      1933-1991**

A.429, A.430                      Bank statements 1933-1943.

A.429                      1933-1938.

A.430                      1939-1943.

A.431                      Financial and business correspondence 1941-1942.

A.432                      Hardback notebook used from the front for household accounts 1948-1951 and car mileage 1951-1953 and from the back for household accounts 1948-1956.

Extensive intercalated material includes receipts, lists of expenses calculations of income and expenditure, etc.

A.433                      Financial and business correspondence 1950-1953.



### Biographical

- A.434 Two hardback pocket notebooks glued together.
- The smaller was used to record expenses during the visit to Scandinavia in 1952 to receive the Nobel prize; the larger to record expenses 1958-1964.
- A.435 Financial and business correspondence 1981-1991.
- Includes correspondence with solicitors *re* the estate of L.M. Synge.
- A.436-A.442 MISCELLANEOUS 1922-1994**
- A.436 Horoscopes for Richard, 'Anne' [Anthea] and Katharine Synge, done for K.C. Synge, 1922 and n.d.
- Programme and local newspaper reviews of performance of 'The Rose and the Ring' by the Christleton Village Players, January 1928.
- L.M. Synge, R.L.M. Synge and K.M. Synge all played characters.
- A.437 Invitations etc for social occasions 1933-1989.
- Invitation 1989 is for luncheon at 10 Downing Street with the Prime Minister in honour of British science Nobel prizewinners. Synge declined on political grounds.
- A.437A Manuscript note headed ' "Brains Trust" - W. Drayton - 7.4.46'.
- Synge's notes on questions asked/to ask.
- A.438 Papers *re* Synge's health.
- Includes x-ray of Synge's hand, 5 February 1964, scientific paper *re* gout, from which Synge suffered.
- A.439-A.441 Pages from spiral bound reporter's notebooks, used by Synge for lists of 'things to do' etc. 1983-1994.

**Biographical**

A.439 1983-1984.

1990.

A.440 1991.

1991, *ca* October- December.

1992.

A.441 1993-1994.

A.442 Miscellaneous correspondence and papers, 1934-1989.

**A.443-A.470                      PHOTOGRAPHS                      1918-1991, n.d.**

A.443 Synge as a child. N.d.

Synge as a child, in a rowing boat. N.d.

Synge as a student or researcher. N.d.

A.444 ?Anthea and Katharine (sisters), one with ?L.M. Synge (father), 25 May 1918. 2 photographs.

?K.C. Synge, with Synge and Anthea. N.d.

A.445 Family home. N.d. 10 photographs.

Christmas card, 1927, with picture of Christleton House.

### Biographical

- A.446                      Inscribed on verso 'Demonstration - Physiol. Lab. [...] Cambridge ?1935'.  
  
Found in envelope '[...] Photo by A. Fyvie Ruakura Animal Research Station [New Zealand]', 193?. Synge not featured.
- A.447                      Sent to Synge by S. Corran, inscribed on verso:  
  
'Dick & Stan Corran Biochem Lab, Cambridge 1937-9?'  
  
'RLMS Dunn Inst. ca. 1938'.  
  
'W E v[an H[eyningen]    A R H T[rim]    R L M S[ynge]    E M Crook  
Grantchester 1939 (?)'.
- A.448                      Inscribed on verso 'C J Martin [...] - ?1946'.
- A.449                      Laboratory at Lister Institute, London, 1948. 4 photographs.
- A.450                      Inscribed on verso 'RLMS at Rowett Inst. Jul. 1949'.  
  
Inscribed on verso 'Garden Sherry Party, Madingley Rise, Cambridge. 1st Intl. Cong. Biochem - Aug. 1949'. 2 photographs.
- A.451                      Staff of Rowett Research Institute, summer 1951.  
  
Inscribed on verso 'Harvesting grass - June 1951 Sunnybrae [...]'  
  
Synge at 2nd International Congress of Biochemistry, Paris, France, 21-27 July 1952.
- A.452                      Inscribed on verso 'Mass spectrometer E I McDougall Rowett Inst. 1952'. 3 photographs.
- A.453                      Inscribed on verso 'Tiselius Apparatus E I McDougall Rowett Inst. 1952'. 2 photographs.  
  
Inscribed on verso 'Svensson Brattsen Apparatus D L Mould Rowett Inst 1952'.



### Biographical

- A.454                      Inscribed on verso 'Jane, Elizabeth Matthew & Patrick [children]    King's Head    End of Oct 1954'.
- A.455                      Inscribed on verso 'Supper for H. Jasiorowski, Park Hotel, Aberdeen 14/10/57'.
- Inscribed on verso 'A I Oparin    RLMS    Dec 1959 Moscow'.
- A.456                      Inscribed on verso '50-Jahres Loeffler-Institut Insel Riems    Oct 1960'. 4 photographs.
- A.457                      Inscribed on verso '[...] Lindau 1961'.
- Contents of envelope inscribed 'Lindau June 1961': Synge at social dinner. 5 photographs
- A.458                      Inscribed on verso 'Photographed on 6th August 1962' (not in Synge's hand) and in 'Drinking [...] to celebrate X-ray structure of sporidesmium'.
- Inscribed on verso 'N. Ellfolk, C.C. Hunter, E.I. McDougall, RLMS Hofbräuhaus, Munich 20/1/63'.
- A.459                      Staff of Rowett Research Institute at Golden Jubilee Year 1963. With key.
- A.460                      Synge family, 1963.
- A.461                      Mounted photograph 'Souvenir of Your Visit to the Home of Guinness', ca 1963.
- Inscribed on verso 'Lindau 1964'.
- Inscribed on verso 'Lindau 1964    Maikäferbetrackkung' and 'Lindau 1964 with Mrs Williams (wife of American attaché) at Bayrisches Frühstück'. 2 photographs
- A.462                      In envelope inscribed 'Cuthbertson Portrait', stamps franked 1965. 2 photographs.

### Biographical

- A.463                      Group photograph in envelope inscribed 'Rowett Research Institute - Protein Chemistry Dept. Sept. 1967'.  
  
                                 Inscribed on verso 'RLMS leaving presentation 29/9/67 Strathcona House'.  
  
                                 Inscribed on verso 'John Peel, Eddy Prescott and workers in "Phase 2" of Earlham Lab. Oct. 1967 [...]'
- A.464                      Mounted group photograph from A.C. Chibnall's 80th birthday, 1974.
- A.465                      Synge and others, sent to him by H. S. Corran, found in envelope postmarked May 1975. One features a painting of Synge in the background. 3 photographs.  
  
                                 Group photographs of Nobel laureates, found in envelope postmarked December 1975. 2 photographs.
- A.466                      Mounted photograph of honorary graduands, University of East Anglia, 1976. Includes Synge (Honorary D.Sc.).  
  
                                 See A.205.
- A.467                      Synge and Ann Synge at Lindau, West Germany, June 1977. 2 photographs. See G.206, G.207.  
  
                                 Inscribed on verso '[...] last night of Phytochemical Societies' Conference at Gent - Sept. 1977'.
- A.468                      Mounted photographs 1980. Probably Honorary D.Sc., University of Uppsala, Sweden, 1980.  
  
                                 See A.207, A.208.
- A.469                      Found in envelope inscribed '[...] from Greenham Common July 1984'. 5 photographs.

### Biographical

A.470                      Honorary D.Sc., University of Aberdeen, 1987. 3 photographs. See A.210.

Group photograph of past Nobel laureates from 1991 Nobel Jubilee, Stockholm, Sweden.

Inscribed on verso 'Lunch [...] Dec. 1991 Uppsala'.

**A.471-A.489**

**K.C. SYNGE'S DIARIES**

**1915-1937**

Synge's mother's diaries record details of domestic life.

A.471-A.474              'Midget' or 'Dwarf' diaries 1915-1918.

A.471                      1915.

A.472                      1916.

A.473                      1917.

A.474                      1918.

A.475-A.489              1923-1937.

Those for 1923 and 1924 are 'Poultry Keeper's' diaries, those from 1925 are 'R.H.S. [Royal Horticultural Society] Gardener's' diaries.

A.475                      1923.

A.476                      1924.

A.477                      1925.



**Biographical**

A.478 1926.

A.479 1927.

A.480 1928.

A.481 1929.

A.482 1930.

A.483 1931.

A.484 1932.

A.485 1933.

A.486 1934.

A.487 1935.

A.488 1936.

A.489 1937.

**SECTION B**

**LISTER INSTITUTE OF PREVENTIVE MEDICINE**

**B.1-B.17**

Synge joined the Lister Institute of Preventive Medicine, London in 1943 as he wished to make a greater contribution to the war effort than he felt he was able to do at the Wool Industries Research Association in Leeds. At the Lister Institute he researched on the chemistry of the antibiotic polypeptides of the gramicidin-tyrocidine group. During this period good relations with the USSR meant that samples of the antibiotic gramicidin S were made available for analysis and in 1945 using the technique of partition chromatography Synge established the sequence of the amino acids in gramicidin S. For the period August 1946 - May 1947 Synge worked at the laboratory of Arne Tiselius in the Fysikalisk-Kemiska Institution, Uppsala, Sweden. Synge left the Lister Institute in 1948 in order to work on more immediately practical aspects of biochemistry. He moved to the Rowett Research Institute in Aberdeen (see section C).

The material includes correspondence and papers relating to Synge's appointment at the Lister Institute including his statement of proposed work, inventories of equipment and chemicals, and miscellaneous administrative material. There are also papers relating to Synge's visit to Tiselius's laboratory - equipment, chemicals etc required and expenses of the visit.

See also Synge's account of his time at the Lister Institute at A.6.

**Lister Institute of Preventive Medicine**

- B.1 Correspondence, principally with A.N. Drury, Director of Lister Institute *re* employment. Includes curriculum vitae and 'Progress Report. Biochemistry Department' on seven months work up to May 1943 from Wool Industries Research Association.
- B.2 'Statement on work proposed to be undertaken at the Lister Institute' by Synge, 4pp typescript. N.d. but probably *ca* 1943.
- Synge sets out three aspects of his planned work on gramicidin.
- B.3 Lister Institute memoranda and notices, 1944-1946.
- 1p manuscript note on proposed work on gramicidin to be undertaken in Sweden, 12 September 1945.
- See E.66 for research report 1944-1945.
- B.4 'Meeting of the Section of Pathology January 22nd 1946. [List of] Demonstrations by members of the Lister Institute'.
- Synge demonstrated on 'Chemistry of gramicidin S'.
- B.5 Papers of sixth meeting of Library Committee, 25 January 1946.
- Synge was a member of the Committee.
- 'List of books recommended by the Library Committee, 1 May 1946; 'Notice from the Library Committee', including situation *re* supply of German scientific journals, *ca* 1946.
- B.6 1p typescript entry for Lister Institute Annual Report, 12 March 1946.
- B.7-B.13 Visit to Sweden and Norway, 1946-1947.
- Synge visited Sweden to work at Tiselius's laboratory at the Fysikalisk-Kemiska Institution in Sweden in order to become familiar with new analytical techniques developed there. While in Sweden Synge visited colleagues at other research establishments and delivered some lectures. Synge returned to the UK via Norway. For an account of work done at the laboratory see F.187.



**Lister Institute of Preventive Medicine**

- B.7 Correspondence with A.N. Drury, Director, and others at the Lister Institute July 1946 - January 1947. Includes report on work achieved, 5 October 1946.
- B.8 Correspondence *re* travel and salary arrangements 1947.
- B.9 'Gramicidin, tyrosine and Gramicidin S', lecture to Swedish Chemical Society, Stockholm, 27 February 1947.  
  
Brief correspondence; 9pp manuscript draft.
- B.10 'Chromatography - general principles, with special reference to adsorption chromatography', lecture, n.d.  
  
6pp manuscript draft + material found attached.
- B.11 Correspondence *re* purchase and modification of Claesson interferometer for adsorption analysis from Swedish manufacturers, LKB-Produkter, June 1946 - March 1947.  
  
Synge acted for the Lister Institute while in Sweden and visited the manufacturers to discuss modifications to the equipment.
- B.12 Correspondence *re* equipment, chemicals etc taken to Sweden by Synge, 1946.
- B.13 6pp typescript 'List of specimens in steel cabinet R.L.M. Synge (taken to Sweden - July 1946)'.  
  
Typescript lists of 'Goods consigned to R.L.M. Synge, Fysikalisk-Kemiska Institutionen, Uppsala, Sweden' and 'Additional items included in consignment to the Lister Institute [...] 28/3/47'. Includes prices in sterling.
- B.14 'Old inventories - Lister Inst.'. Contents of Synge's envelope so inscribed: typescript lists of apparatus and chemicals. N.d.
- B.15 Further typescript lists of apparatus and chemicals with manuscript annotations by Synge.

**Lister Institute of Preventive Medicine**

- B.16 Correspondence *re* requests to work at the Lister Institute, 1946-1947.
- B.17 Programme; table plan and guest list for 75th Anniversary celebrations of the Lister Institute, 9 November 1966.

**SECTION C**

**ROWETT RESEARCH INSTITUTE**

**C.1-C.103**

In October 1948 Synge moved from the Lister Institute of Preventive Medicine (section B) to the Rowett Research Institute (RRI), based in Aberdeen. He headed the Department of Protein and Carbohydrate Chemistry (later the Department of Protein and Lipid Chemistry, then the Department of Protein Chemistry). In 1965 Synge was appointed Deputy Director of the Institute.

There is documentation of Synge's appointment, his headship of the Department of Protein and Carbohydrate Chemistry, including research programmes, equipment and staff, Agricultural Research Council Visiting Groups, and quite extensive administrative material. There is also material relating to the Institute's Strathcona Club of which Synge was a loyal member, and a little memorabilia.

For photographs taken at the Rowett Research Institute during Synge's period see A.450, A.451, A.452, A.453, A.458, A.459, A.462 and A.463.

The material is presented as follows:

C.1, C.2	APPOINTMENT
C.3-C.56	PROTEIN AND CARBOHYDRATE CHEMISTRY DEPARTMENT
C.57-C.63	AGRICULTURAL RESEARCH COUNCIL VISITING GROUPS
C.64-C.78	RRI ADMINISTRATIVE NOTICES
C.79-C.92	RRI ANNUAL REPORTS
C.93-C.96	RRI NEWSLETTERS
C.97-C.100	THE STRATHCONA CLUB
C.101-C.103	MEMORABILIA



**Rowett Research Institute**

**C.1, C.2                      APPOINTMENT                      1947-1948**

C.1                      Correspondence 1947, chiefly *re* Syngé's equipment requirements. Includes Syngé's manuscript lists of chemicals and apparatus.

C.2                      Correspondence 1948-1949, chiefly *re* equipment and co-workers.

**C.3-C.56                      PROTEIN AND CARBOHYDRATE CHEMISTRY DEPARTMENT                      1949-1967**

C.3-C.7                      Research programmes and reports

C.8-C.20                      Estimates

C.21-C.37                      Equipment and supplies

C.38-C.45                      Staffing

C.46-C.52                      Departmental notices

C.53-C.56                      Miscellaneous

**C.3-C.7                      Research programmes and reports                      1949-1956**

Research programmes of the Protein and Lipid Chemistry Department 1962-1964 and 1963-1964 are at C.47 and C.48.

C.3-C.5                      Typescript and duplicated typescript programmes of the Protein and Carbohydrate Chemistry Department.

C.3                      'Academic Year Oct. 1949-1950', 26 May 1949.

'Research Programme', 1950-1951, 16 May 1950.

Manuscript draft of research programme written on back of Director's note of 5 May 1950.

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- C.4 'Research Programme 1952-53' (amended version of Programme for 1951-1952).  
  
'Subjects of current and intended research'.  
  
'Research Programme 1953-54'
- C.5 'Research Programme 1954-55'.  
  
'Research Programme 1955-6'.
- C.6, C.7 Contributions of Protein and Carbohydrate Chemistry Department to Annual Reports, by Synge.
- C.6 1953-1954. 9pp typescript.
- C.7 1954-1955, 7pp typescript + summary.
- C.8-C.20                      Estimates                      1950-1963**
- Contents of Synge's two folders so inscribed: typescript and manuscript lists of expenditure on staff, apparatus and chemicals, requirements for farm animals, expected promotions, valuations of departmental equipment etc.
- The first folder covered the period 1950-1958 (C.8-C.15), the second 1958-1963 (C.16-C.20).
- C.8 1950-1951.
- C.9 1951-1952.
- C.10 1952-1953.
- C.11 1953-1954.
- C.12 1954-1955.

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C.13 1955-1956.

C.14 1956-1957.

C.15 1957-1958.

For this financial year the Department of Agriculture for Scotland requested that applications for funds for 1957-1958 be kept at the same levels as the previous year.

C.16 1958-1959.

C.17 1959-1960.

C.18 1960-1961.

C.19 1961-1962.

C.20 1962-1963.

**C.21-C.37                      Equipment and supplies                      1949-1962**

C.21-C.23 'Supplying firms 1948-'. Contents of Synge's folder so inscribed divided into three for ease of reference: correspondence and papers from suppliers of equipment and chemicals.

C.21 1949-1950.

C.22 1951-1953.

C.23 Typescript and printed material.



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- |            |  |
|------------|--|
| C.24, C.25 | Correspondence with Shandon Scientific Company <i>re</i> manufacture of equipment for paper chromatography, 1949. 2 folders.   |
| C.26-C.29  | 'Isotopes - AEA'. Contents of Synge's folder so inscribed divided into four for ease of reference.   |
| C.26       | 'Introductory Manual on the Control of Health Hazards from Radioactive Materials', issue 2, January 1949. Prepared for the Medical Research Council by the Atomic Energy Research Establishment (AERE), Harwell. |
| C.27       | AERE catalogue of 'Radioactive and Stable Isotopes', latest bibliographical reference 1947.  |
| C.28       | Atomic Energy Authority (AEA) catalogue of 'Radioactive products', 1956.   |
| C.29       | Miscellaneous correspondence and papers from AEA, 1957-1958.   |
| C.30, C.31 | Correspondence with Quickfit & Quartz Ltd <i>re</i> supply of glass and other equipment, 1950-1962.  |
| C.30       | 1950, 1952-1953.   |
| C.31       | 1960-1962.   |
| C.32       | 'Note on the use of Ultra-Sonic Generators' by G.A. Garton, 2pp typescript, 14 September 1955.   |
| C.33       | Letter to G.N. Haden & Sons Ltd, <i>re</i> replacement of fume-cupboards, with sample drawings of fume-cupboards supplied to Cambridge University by Haden & Sons.   |
| C.34-C.37  | 'Instruction sheets etc, concerning Lab. apparatus'. Contents of Synge's folder so inscribed divided into seven for ease of reference  |

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C.38-C.45	Staffing	1949-1957
C.38-C.44	Contents of Synge's folder inscribed 'Staff and visiting workers 1948-' divided into seven for ease of reference.	
C.38	General correspondence and papers.	
C.39-C.44	Members of staff, arranged alphabetically.	
C.39	Annison, E. F.	1951-1952
	Arni, P. C.	1949-1952
C.40	Bywater, S.	1949-1950
	Chalmers, M.	1951
C.41	Hobson, P.	1950-1951
C.42	Joyce, A. E.	1950-1951
	McDougall, E. I.	1949-1952
	Mould, D. L.	1950, 1952
C.43	Shazly, K. A. S. el-	1948-1952
	Warner, A.C. I.	1952-1953
C.44	Miscellaneous.	
C.45	Correspondence and papers <i>re</i> scholarship student, 1954.	
	Correspondence and papers <i>re</i> post in Lipid Biochemistry Section, 1957.	

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<b>C.46-C.52</b>	<b>Departmental notices</b>	<b>1960-1967</b>
	Contents of Synge's folder so inscribed: typescript and duplicated typescript papers, 1960-1967.	
C.46	1960. Includes material <i>re</i> Laboratory Technicians' course.	
C.47	1961. Includes departmental programme of research for 1962-1964.	
C.48	1962. Includes list of apparatus, equipment and chemicals held by the department, and programme of research for 1963-1964.	
C.49	1963.	
C.50	1964.	
C.51	1965.	
C.52	1966-1967. Includes manuscript list of visitors, 1948-1967.	
<b>C.53-C.56</b>	<b>Miscellaneous</b>	<b>1949-1966</b>
C.53, C.54	'Home Office'. Contents of Synge's folder so inscribed divided into two for ease of reference: correspondence and papers <i>re</i> Home Office licences to perform experiments on living animals, 1949-1966.	
C.55	'Radio-active substances in Protein & Lipid Chem Dept. Institute Rules'. Contents of Synge's folder so inscribed: correspondence and papers <i>re</i> use and regulation of isotopes, 1960.	
C.56	'Own radioactive experiments'. Contents of Synge's folder so inscribed: correspondence and papers chiefly <i>re</i> departmental use of C14, 1962-1965.	



**Rowett Research Institute**

**C.57-C.63                      AGRICULTURAL RESEARCH COUNCIL VISITING GROUPS    1953, 1964**

**C.57                              1953**

Contents of Synge's envelope. The Agricultural Research Council (ARC) Visiting Group made its quinquennial visitation of the Institute 30 April - 1 May 1953. The group was headed by H.A. Krebs.

C.57                              Memoranda *re* arrangements for visit; 4pp typescript 'Data for ARC Quinquennial Visitation' prepared by Synge; 2pp typescript extract from ARC report on visit; manuscript notes

**C.58-C.63                      1964**

Contents of Synge's folder. The ARC Visiting Group made its sexennial visitation of the Institute 6-8 May 1964. The group was headed by H.A. Krebs.

C.58                              2pp typescript memorandum prepared by Synge in October 1958, responding to the section of ARC Report on the 1958 visitation commenting on Synge's department.

C.59                              Memoranda and other material *re* arrangements for visit.

C.60-C.62                      Material prepared for the Visiting Group.

C.60                              Manuscript and typescript notes on equipment etc needs of RRI and of the Protein Chemistry Department; manuscript draft of report of the Protein Chemistry Department for the Visiting Group, not all in Synge's hand.

C.61, C.62                      125pp duplicated typescript information on the RRI and its departments prepared for the Visiting Group. 2 folders.

C.63                              Duplicated typescript extracts from 1964 Report of Visiting Group.

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**C.64-C.78**

**RRI ADMINISTRATIVE NOTICES**

**1948-1961**

Contents of Synge's folder inscribed 'Administrative notices'. Principally typescript and duplicated typescript memoranda *re* staff, buildings, equipment, visitors to the Institute etc, 1948-1961.

C.64

1948.

C.65

1949.

C.66

1950 January - May. Includes 4pp and 3pp typescript papers for meeting to discuss 'Proposed experiment to compare the nutritive value of spring and autumn grass silages', 27 March.

C.67

1950 June - December.

C.68

1951 January - April.

C.69

1951 May. Duplicated typescript 'Report of Staff Library Committee' on procedure and facilities.

C.70

1951 June - December.

C.71

1952.

C.72

1953.

C.73

1954.

C.74

1955.

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C.75	1956.
C.76	1957.
C.77	1958-1959.
C.78	1960-1961.

<b>C.79-C.92</b>	<b>RRI ANNUAL REPORTS</b>	<b>1947-1962</b>
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C.79	1947-1948.
C.80	1948-1949.
C.81	1949-1950.
C.82	1950-1951.
C.83	1951-1952.
C.84	1952-1953.
C.85	1953-1954.
C.86	1954-1955.
C.87	1955-1956.



**Rowett Research Institute**

C.88 1956-1957.

C.89 1957-1958.

C.90 1958-1959.

C.91 1959-1960.

C.92 1961-1962.

**C.93-C.96 RRI NEWSLETTERS 1965-1967**

The Newsletters were initiated in 1965 to keep members of the Institute aware of scientific and social activities. Not a complete sequence.

C.93 1965.

C.94 1966 January-June.

C.95 1966 July-December.

C.96 1967.

**C.97-C.100 THE STRATHCONA CLUB 1948-1965, n.d.**

The Strathcona Club was a residential Hall and Club built in 1933 to provide accommodation and a social centre for research workers at the Rowett Research Institute. It was named after Lord Strathcona, the principal benefactor.

**Rowett Research Institute**

C.97 Rules of the Club, 1948, 1965 and n.d.

C.98 Papers for AGMs, 1949-1954.

C.99 Papers for AGMs, 1961, 1963, 1965, 1966.

C.100 Miscellaneous correspondence and papers, 1949, 1961, 1962.

**C.101-C.103**

**MEMORABILIA**

**1948-*ca* 1957**

C.101 Article about the Institute in *Aberdeen Weekly Journal*, 21 October 1948.

Pictures from the Institute in *Aberdeen Bon-Accord*, 2 November 1950.

Article about the Institute in Aberdeen local newspaper, *ca* 1957.

C.102 Song from the Founders' Dinner, 31 October 1953.

Song 'Ex scientia salus', for ?Founder's Dinner, October 1956.

C.103 Manuscript draft of notice for *Brechin Advertiser* 3 November [?1957] *re* radioactive fallout.

**SECTION D**

**FOOD RESEARCH INSTITUTE**

**D.1-D.19**

Synge joined the Agricultural Research Council's Food Research Institute (FRI), Norwich, in 1967. He was attached to the Chemistry Division, working on reactions of polyphenols and quinones and bound forms of amino acids in plants. Synge retired in 1976 but continued research based at the Institute and was appointed to an honorary professorship at the University of East Anglia.

The material is not extensive. It includes correspondence and papers relating to Synge's appointment including his plan of research, comments on Lord Rothschild's 1971 Green Paper *A Framework for Government Research and Development*, administrative papers from the Chemistry Division, and project reports on Synge's research.

The material is presented as follows:

D.1-D.12	GENERAL CORRESPONDENCE AND PAPERS
D.13-D.17	CHEMISTRY DIVISION
D.18, D.19	PROJECT REPORTS



**Food Research Institute**

<b>D.1-D.12</b>	<b>GENERAL CORRESPONDENCE AND PAPERS</b>	<b>1965-1976, n.d.</b>
D.1	Correspondence <i>re</i> terms of appointment, equipment required etc, 1965-1967; letter from K.L. Blaxter <i>re</i> Synge's 'inaugural days', 7 March 1969.	
D.2	General correspondence and papers 1969-1979. Includes exchange with Director <i>re</i> circulation of Annual Confidential Reports, 1975-1976.	
D.3	Manuscript draft beginning 'This is how I visualise the development of the work of my group [...]', 19 September 1968, with later manuscript notes found attached.  Report of work of Synge's group for '[Agricultural Research Council] Visiting Group', 18 July 1969, 2pp typescript + 2pp typescript notes on work with plant proteins and leaf extracts.	
D.4	Papers <i>re</i> Library Committee 1971-1976. Includes 10pp typescript memorandum by Synge on 'Future policy for Food Research Institute Library about periodicals', 31 December 1971.	
D.5-D.7	<i>A Framework for Government Research and Development</i> by Lord Rothschild, Cmnd 4814, 1971.  This Green Paper (known as the Rothschild Report) on research and development carried out by government departments and other institutions attracted much comment. Synge prepared a memorandum on the implications of the report for agricultural research.	
D.5	Correspondence and papers, including material from meeting of Lord Rothschild with Fellows of the Royal Society, 11 January 1971.	
D.6	Draft of Synge's memorandum on the Green Paper. Includes 6pp typescript original, carbon copies annotated by recipients and correspondence.	
D.7	11pp typescript on 'History of ARC/DSIR investigations into the indoor storage of potatoes'; Synge's manuscript draft of introduction to his memorandum.	

**Food Research Institute**

- D.8 Programme for FRI 'At Home' displays, 13-14 May 1971.
- D.9 2pp typescript 'Background to request for T.P.I. extra-mural contract' by Synge and E. Mbadiwe, May 1974.
- D.10 'Memo for ARC Review Committee concerning future development of Food Research Institute' by Synge, 11 December 1974.  
  
Manuscript and typescript drafts; 2pp typescript.
- D.11 Coloured sketch of the FRI, with short note on its location and environment, 29 December 1975.
- D.12 Songs from Food Research Institute Christmas parties, 1970, n.d.
- D.13-D.17 CHEMISTRY DIVISION 1969-1977**
- D.13 Papers 1969-1971. Includes 2pp typescript memorandum by Synge to the Horticultural Committee noting 'Points of September meeting', 1969.
- D.14 Memoranda by R.F. Curtis, Head of Chemistry Division:  
  
'Future Developments in the Chemistry Division', 10pp photocopied typescript sent to Synge 14 September 1971.  
  
'Assistant Scientific Officers', 3pp typescript, ca 1972.  
  
'Memorandum for discussion in the Chemistry Division', 4pp duplicated typescript, ca 1973.
- D.15 Reports of work in progress for FRI Annual Reports  
  
1 February 1968, 1p typescript.  
  
12 January 1970, 1p typescript.  
  
5 April 1971, 2pp typescript.

**Food Research Institute**

D.16                      Papers *re* appointment of temporary organic chemist to assist Synge in study of the reaction of quinones with proteins and amino acids in plants, 1972-1973. Includes Synge's drafts of the course of research.

D.17                      'Chemistry Division List of Projects 1976-77'.

**D.18, D.19**

**PROJECT REPORTS**

**1972-1976**

D.18                      'Coupling of quinones with proteins'.

Reports April 1972 - March 1973; April 1973 - March 1974; April 1974 - March 1975; April 1975 - March 1976; Final report November 1976.

D.19                      'Derivatization-GC/MS-Computing for analysis'.

Reports April 1972 - March 1973; April 1973 - March 1974; Final report *ca* March 1975.



**SECTION E**

**RESEARCH**

**E.1-E.101**

Notebooks, papers and correspondence documenting the bulk of Synge's research work. For his research on facial eczema in sheep undertaken in New Zealand 1958-1959 see G.65-G.81.

The material is presented as follows:

E.1-E.48      NOTEBOOKS

E.49-E.101      RESEARCH NOTES

**E.1-E.48**

**NOTEBOOKS**

**1936-1993**

The notebooks document Synge's research from postgraduate studies in the mid 1930s, through work for the Wool Industries Research Association in Leeds, Lister Institute of Preventive Medicine, Rowett Research Institute and Food Research Institute, to post-retirement work in the 1990s on electronic storage of chemical information. The bulk of the notebooks are a sequence I-XXVII running from 1938 to *ca* 1979. There are also notebooks used for references from searches of the Science Citation Index.

At E.43-E.48 are notebooks used by three collaborators, J.C. Wood 1952-1954, M.A. Youngson 1958-1962 and S. Matai 1968-1969.

E.1-E.3      Two exercise books, both lacking covers, found in envelope inscribed 'Carbohydrate work I & II' and material found therewith.

E.1      Headed on first page '[...] July 1936'. Used from the front 7 July - 5 August 1936, paginated 1-54, and at the back for notes on methods.

E.2      Used 5 October 1936 - 16 March 1937, paginated 1-186.  
  
Loose material found intercalated at the front of the notebook is at E.3 below.

E.3      Manuscript and typescript material found intercalated in E.2. Includes 8pp typescript notes on 'Summary of work commencing 7.vii.36'.

### Research

- E.4                      Hardback notebook inscribed on front cover 'Carbohydrate work 1937' and inside front cover 'III March 1937'. Used from the front for notes March 1937 - 11 January 1938, paginated 1-102, and at the back for notes October - December 1937.
- E.5                      Hardback notebook inscribed on first page '[...] April 1938 - March 1939 Protein work I', paginated 1-210. Pasted into back of book is typescript 'Index to vol. I (April 1938-March 1939)'.
- E.6                      Hardback notebook inscribed on first page '[...] March 1939 Protein work II - OH amino-acids etc'. Used from the front to ca April 1941, paginated 1-197, and from the back for notes on 'Draft thesis', bibliographical references etc.
- E.7                      Hardback notebook inscribed on first page '[...] March 1939 Protein work III - analysis etc. Monoaminoacids'. Used from the front to 26 June 1940, paginated 1-104, and at the back for references and calculations.
- E.8                      Hardback notebook inscribed inside front cover '[...] Protein work IV - Partial hydrolysis etc'. Used from the front from March 1941, paginated 1-257, and from the back. Not all in Synge's hand.
- E.9                      Hardback notebook inscribed inside front cover 'Notebook V    AH Gordon RLM Synge. Partial hydrolysis work II' with brief list of contents. Used from the front from ca February 1942, paginated 1-172, and from the back. Not all in Synge's hand.
- E.10                     Hardback notebook labelled on front cover '6 Tyrocidine - complete hydrol. Gramicidin (Wallerstein) - Partial hydrol. & Bacterial tests'. Used from the front ca 1942-1943, paginated 1-130, and from the back to September 1943, paginated with Synge's own Greek and Latin alphabetical system. Not all in Synge's hand.
- Paper chromatographs intercalated.
- E.11                     Hardback notebook labelled on front cover '7 Gramicidin (Hotchkiss). Complete hydrol. Amino-acid [...] "Glycoleucine" "Grami[cidin] S" Bact. & serology'. Used from the front for notes September 1943 - October 1944, paginated 1-126, and from the back for notes ca December 1943 - 1 January 1945, including work on penicillin 1944, paginated with Synge's own system.

A little loose intercalated material.



### Research

- E.12                      Hardback notebook labelled on front cover '8. Shiga A substance OH amino cpd of grami & mode of linkage Kinetics of hydrol. of grami & peptides Gramicidin S Glycoleucine'. Used from the front ca December 1944 - September 1945, paginated 1-57, and from the back 26 September 1944 - April 1945, paginated with Synge's own system.
- Material clipped to pages of notebook, including paper chromatographs.
- E.13                      Hardback notebook labelled 'IX Serological work Att[empted] fr[actionatio]n GRAMI. Back Grami S. Att. fractionation tyro Part[ia]l hydrol. Derivs'. Used from the front for work 'Continued from back of notebook VII' ca January 1945 - 11 June 1946, paginated 1-104, and from the back June 1945 - September 1946, paginated with Synge's own system.
- Loose material intercalated at back and clipped to pages of notebook.
- E.14                      Hardback notebook inscribed inside front cover 'Protein work X Experiments at Fys. Kem. Inst. Upsala Aug 1946-. Mostly expts on intact grami, grami S & Tyro - absorption prop[ertie]s other phys props & homogeneity tests. Diffusion expts at end of book'. Used from the front 22 August 1946 - 6 February 1947, paginated 1-110, and at the back for notes on experiments with K. Pedersen, 4 November 1946 - 22 February 1947.
- Loose material intercalated at back and clipped to pages of notebook.
- E.15                      Softback notebook inscribed inside front cover 'Nov 1946 at Fys. Kem. Inst. Upsala Protein work XI Chromatography of amino-acids & lower peptides in C. Feb 1948 Lister Inst. cont. p190'. Used from the front 3 December 1946 - 20 March 1947, paginated 1-188, and at the back for notes 25 November 1946'. Not all in Synge's hand.
- Loose material intercalated at back and clipped to pages of notebook.
- E.16                      Hardback notebook inscribed inside front cover 'XIA Interferometric work at Lister Institute'. Used for notes 26 February - 16 July 1948, paginated 1-100 (used up to p.84). Not all in Synge's hand.
- E.17                      Hardback notebook inscribed inside front cover 'Lister Inst. London Protein work XII Gramicidin'. Used from the front 4 June 1947 - 10 August 1948, paginated 1-95, and from the back for notes, various dates 1947-1963, paginated with Synge's own system.
- Much loose material intercalated including paper chromatographs (some on fabric).



### Research

- E.18                      Hardback notebook inscribed inside front cover 'Notebook XIII [...] Rowett Research Institute'. Used from the front 11 October 1948 - 3 September 1952, paginated 1-302, and from the back 5 November 1948 - 15 May 1952, paginated with Synge's own system. Not all in Synge's hand.
- E.19                      Hardback notebook inscribed inside front cover 'Notebook XIV Tissue & Bacterial peptide work [...] Oct 1951'. Used 15 October 1951 - 1 September 1953, paginated 1-178, and from the back for notes 7 January - 26 February 1953, paginated with Synge's own system. Not all in Synge's hand.
- E.20                      Hardback notebook inscribed inside front cover 'Notebook XV July 1953'. Used from the front for notes 27 June 1953 - 3 March 1954 and re-examined 1960, paginated 1-161, and at the back for notes on grass protein 13 August 1953 - 6 January 1954. Not all in Synge's hand.
- E.21                      Hardback notebook inscribed inside front cover 'Nils Ellfolk. The Rowett Research Institute [...] XVI'. Used 15 January 1954 - 21 February 195[5], paginated. Not all in Synge's hand.
- Some material has been attached to the pages of the notebook with adhesive tape.
- E.22                      Hardback notebook inscribed inside front cover 'Notebook XVII'. Used 2 February 1955 - 13 July 1956 chiefly for work on membranes, paginated 1-71.
- Material intercalated loose at front or attached to the pages of the notebook with adhesive tape.
- E.23                      Hardback notebook inscribed inside front cover 'Notebook XVIII'. Used 23 February 1955 - 23 January 195[6], paginated 1-139.
- Some material has been attached to the pages of the notebook with adhesive tape.
- E.24                      Hardback notebook inscribed inside front cover 'Notebook XIX'. Used 25 January - 25 September 1956, paginated 1-139.
- Material intercalated loose or attached to the pages of the notebook with adhesive tape.

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- E.25                      Hardback notebook inscribed inside front cover 'Notebook XX'. Used 11 July 1956 - 3 April 1958, paginated 1-128. At the back are notes on preparation of shikimic acid, November-December 1956.
- Some material has been attached to the pages of the notebook with adhesive tape.
- E.26                      Hardback notebook inscribed inside front cover 'Notebook XXI [...] Broad bean & Isotopic tracer work'. Used 6 December 1957 - 11 September 1958, paginated 1-104.
- Loose material intercalated.
- E.27                      Hardback notebook inscribed inside front cover 'Notebook XXII [...] Nov. 1958 - July 1959 Facial Eczema Poison - Arabic numerals. Beaker test substance & substance in 242° - small roman numerals at back of book'. Used for notes while in New Zealand studying facial eczema in sheep, from the front paginated 1-114, and from the back paginated i-xxxiv.
- Intercalated material includes (at front) 'Annotated contents of Notebook XXII (Arabic numbered pages)', (at back) 'Annotated contents XXII (roman numbered pages)', and results of crystallographic analysis provided by D.M.C. Hodgkin, 8 May 1959.
- E.28                      Hardback notebook inscribed inside front cover 'Notebook XXIII [...] July 1959 - Oct 1959 Sporidesmium Bakeri Facial eczema poison - arabic numerals. Bound amino-acid compounds etc (side fractions) - small roman numerals at back of book'. Used for notes while in New Zealand studying facial eczema in sheep, from the front paginated 1-59, and from the back paginated i-vii. Not all in Synge's hand.
- Loose at front is 'Annotated contents of Notebook XXIII (Arabic page numbers at front of book)' and on verso 'Roman numerals at back of book'.
- E.29                      Hardback notebook inscribed inside front cover 'Notebook XXIV [...] March 1960- Leaf protein etc in non-polar solvents. Mol - sieve effects on electrophoresis in membranes and gel filtration'. Used from the front 11 March - 10 October 1960, paginated 1-147, and at the back September 1961', paginated with Synge's own system. Not all in Synge's hand.
- Loose material intercalated including at front list of 'Contents' of notebook.



### Research

- E.30                      Hardback notebook inscribed inside front cover 'Notebook XXV [...] Dec. 1962 - Sept 1967    Food Research Institute, Norwich Oct 1967 - Sept 1969', paginated 1-132.
- A little loose intercalated material.
- E.31                      Hardback notebook inscribed inside back cover (notebook is used from the back) '[...] Temp c/o Indian Statistical Institute [...] Notebook XXVI - for work in India'. Used from 23 July - 16 August 1966, paginated 1-7, most pages not used.
- A little loose intercalated material including letter from S.K. Gupta enclosing results of tests of nitrogen content of rice.
- E.32                      Hardback notebook inscribed inside front cover 'Notebook XXVI [*sic*] Oct. 1969 - Feb. 1974'. Used from 1 October - 14 February 1974, paginated 1-134.
- Loose material intercalated including chemical samples, and analyses supplied by E. Pascher.
- E.33                      Hardback notebook inscribed inside front cover 'Notebook XXVII [...] Feb. 1974-'. Used 14 February 1974 - 19 June 1979.
- Loose material intercalated including at front analyses supplied by Pascher.
- E.34                      Hardback notebook inscribed on first page 'Examn of Chem. Abs. Oct. 20 1944 - Nov. 20 1948    LH pages General Interest    RH pages Amino acids and their detn and results on proteins'. Used from the front for chemical abstracts, from the back for notes on lectures 15 November 1944 and 5 November 1946, and between for translation of 'Microdetermination of alanine and some other amino-acids employing *p*-hydroxydiphenyl' by A.E. Braunshtein and S.M. Bichkov.
- E.35                      Hardback notebook inscribed inside front cover 'Reference book 2 1948 - May 1952 (ref Am. Chem. Abs)'. Used for chemical abstracts.
- E.36                      Potash Limited pocket notebook inscribed on first page '[...] Sci & Lit Notes 1960-4 inclusive'. Used for miscellaneous jottings.



## Research

- E.37 Potash Limited pocket notebook inscribed on first blank page 'Science Citation Index Searching Book 1'. Used for searches ca 1961-1969.
- E.38 Potash Limited pocket notebook inscribed on first page '[...] Lit & Scientific notes Jan 1965-'. Used for miscellaneous jottings.
- E.39 Hardback notebook inscribed inside front cover '[...] Science citation index book 2' with list of 'Visits to SCI'. Used from the front January 1971 - July 1978, paginated 1-106, and from the back for citations 1970-1992.
- A little loose material is intercalated. Loose material found intercalated at the front of the notebook is at E.40 below.
- E.40 Manuscript material found intercalated in E.39. Includes 'New refs from online search of SCI March 1993'.
- E.41 Hardback notebook inscribed inside front cover '[...] Reference book 45 [...] 1975 Chem Abs 83 103731 - 1976 84 140109'.
- E.42 Hardback notebook inscribed inside front cover 'R.L.M. Synge CHE, UEA Norwich Nov 1982 Data for aliphaticization of heterocycles programs'. Used for diagrams of chemical structures, with list of contents at front.
- Relates to material *re* Crossbow at E.89-E.94.
- E.43-E.48                      Notebooks of scientific collaborators                      1952-1969**
- E.43 Hardback notebook inscribed inside front cover 'James C. Wood. Rowett Inst [...] Note Book Y'. Used from the front 28 April 1952 - 15 February 1954, paginated 1-124, and from the back 21 May 1952 - 21 February 1954.
- Attached to the back of the book by adhesive tape are notes from Wood's 'Notebook S', 7 June - 1 July 1954, paginated 1-20.
- E.44 Hardback notebook inscribed inside front cover 'Mary A. Youngson Protein Chemistry Book I Y'. Used 1 January 1958 - 25 June 1960, paginated 1-147.
- Loose material intercalated, including at back partial index to notebook (in Synge's hand).

### Research

- E.45                      Hardback notebook inscribed inside front cover 'Mary A. Youngson Protein Chemistry Book II Y (June 1960 - May 1961)'. Used 28 June 1960 - 25 May 1961, paginated 1-151.
- Loose material intercalated, including at back index to notebook (in Synge's hand).
- E.46                      Hardback notebook inscribed inside front cover 'Mary A. Youngson Protein Chemistry Book III Y'. Used 29 May 1961 - 5 June 1962, paginated 1-147.
- Loose material intercalated, including at back index to notebook (in Synge's hand).
- E.47                      Hardback notebook inscribed inside front cover 'Mary A. Youngson Protein Chemistry Book IV Y'. Used 6 June - 26 July 1962, paginated 1-27.
- Loose material intercalated, including at back index to notebook (in Synge's hand).
- E.48                      Hardback notebook inscribed inside front cover '[...] Rough book' and on spine 'S. Matai'. Used October 1968 - 7 August 1969 chiefly for notes on experiments but also (towards front) for notes on German grammar.
- A little intercalated material.
- E.49-E.101                      RESEARCH NOTES                      1938-1987, n.d.**
- The material includes reports on work on proteins for the Wool Industries Research Association 1938-1943, wartime work on grass protein 1939-1943 and gramicidin 1944-1946, studies on the nutritive value of by-products of the herring industry 1949-1951, and papers relating to computer searching for chemical information 1981.
- E.49-E.59                      Wool protein research, 1938-1943.
- E.49                      Report on work on 'proteins in general and wool keratin in particular' for International Wool Secretariat, 1938-?1939.
- 17pp typescript.



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- E.50                    'Memorandum' on work under studentship, '26.v.40'. Reports work  
'developing the technique of separating the products of protein hydrolysis'.  
  
2pp typescript.
- E.51                    'Report to the International Wool Secretariat on Second Year's Work, June  
1940' chiefly on 'possible method of separating hydroxy-amino-acids'.  
  
6pp typescript.
- E.52, E.53            'Report to International Wool Secretariat on Third Year's Work' on  
monoamino-acids of wool and hydroxyamino-acids in protein, June 1941.
- E.52                    11pp manuscript.
- E.53                    8pp typescript.
- E.54                    'Wool Industries Research Association Research Control Committee  
Progress Report 9th July 1941'.  
  
15pp duplicated typescript.  
  
Includes report on work carried out by Synge on page 4.
- E.55                    'Wool Industries Research Association Research Control Committee 31st  
October 1941 Progress Reports'.  
  
6pp duplicated typescript.  
  
Includes report on work carried out by Synge on page 4.
- E.56                    'Wool Industries Research Association Research Control Committee  
Progress Report April, 1942'.  
  
11pp duplicated typescript.



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- E.57                    '[Wool Industries Research Association] Progress Reports Research Control Committee 28th October 1942.
- 10pp duplicated typescript. With manuscript draft of Synge's progress report for May 1943 on verso of final pages (see E.59 below).
- E.58                    'Biochemistry Progress Report - October, 1942', 3pp typescript.
- E.59                    'Progress Report Biochemistry Department May, 1943', 3pp typescript (see E.58 above).
- E.60-E.63            'Grass protein Correspondence'. Contents of Synge's envelope so inscribed divided into four for ease of reference.
- The material, principally correspondence between A.C. Hulme of the Food Investigation Laboratory at East Malling and members of the Low Temperature Research Station in Cambridge, was passed to Synge by Hulme, possibly when Synge took up his post at the Rowett Research Institute in 1948. Includes results of work on grass protein.
- E.60                    1939, 1940 January - June. Includes correspondence *re* obtaining supply of cerophyl.
- E.61                    1940 July - December. Includes correspondence *re* supply of cerophyl.
- E.62                    1941.
- E.63                    1942-1943.
- E.64, E.65            'Norleucine (Mss by O. Rosenheim)'. Contents of Synge's folder so inscribed divided into two for ease of reference.
- See also F.7.
- E.64                    Correspondence from O. Rosenheim 1944, and A. J. P. Martin; 'The non-identity of Thudichum's glycoleucine and norleucine', manuscript and typescript rough draft and 3pp typescript draft dated 8 February 1945.

### Research

- E.65 Manuscript and typescript notes and pages of drafts, some in Rosenheim's hand.
- E.66 2pp typescript, 'Report for 1944-1945' by Synge.  
  
Records work on gramicidin, gramicidin S, interaction of antibacterial agents, amino-acid analysis.
- E.67 Correspondence with Soviet colleagues and papers *re* work on gramicidin S, May 1945 - March 1946.  
  
Includes correspondence with G.F. Gause (see also F.79) and P.G. Sergiev.
- E.68 'Working sheets at Upsala'. Contents of Synge's folder so inscribed.  
  
Letter from A. Tiselius, 2 September 1948, *re* the Synge family's visit to Uppsala in the summer; manuscript notes, some in form of rough calendar entries, 1948.
- E.69-E.71 'Powdered Cellulose for Chromatography'. Contents of Synge's folder so inscribed divided into three for ease of reference.
- E.69 Correspondence *re* cellulose columns for chromatography, 1948.
- E.70 Correspondence and papers, chiefly with H. Reeve Angel & Co. Ltd *re* testing cellulose powders, 1949-1950.
- E.71 Correspondence with J.N. Balston of W. & R. Balston Ltd *re* request for advice on paper and cellulose powder chromatography. Includes sample chromatograms, 1950-1951.
- E.72 Miscellaneous manuscript notes, some dated 1946 and 1947.
- E.73 Miscellaneous manuscript notes, 1949.
- E.74 Manuscript notes from jotter, latest reference 1950.



### Research

- E.75-E.80                      'Herring and Fish products'. Contents of Synge's folder so inscribed divided into six for ease of reference.
- Synge was involved in studies of the nutritive value for animals of by-products of herring meal and oil industry. He co-operated with colleagues in Norway, visiting the Herring Industry Oil and Meal Industry Research Institute in Bergen in early 1951.
- E.75                              Correspondence and papers, 1949.
- Includes notes on 'Alkali reduction Herring meal' prepared for meeting at Agricultural Research Council 12 May.
- E.76                              Correspondence and papers, 1950.
- Includes notes on experiments feeding herring meal to chicks carried out in Norway in the summer and autumn.
- E.77                              Correspondence and papers, 1951, chiefly *re* Synge's visit to Norway in connection with the research.
- Includes Synge's 10pp typescript 'Report to Agricultural Research Council on current and intended work with herring meal and on visit to [...] Bergen [...] Feb. 26th to March 3rd 1951'.
- E.78                              Correspondence, 1952.
- E.79, E.80                      Background material.
- E.79                              'Report on work carried out at the Rowett Institute 1/12/48-25/1/1949. (by Mathias Klungsöyr)'.
- 14pp manuscript draft (in Norwegian); 11pp typescript (in English).
- E.80                              Miscellaneous typescript and printed material.



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- E.81                    'Experiment with lambs to compare palatability and value for maintenance and growth of lucerne dried as cut or as the fibrous residue resulting from the protein extraction process (Drayton)' by Synge and M.I. Chalmers, 18 March 1952.
- 2pp typescript + 2pp table etc.
- 'Grassland utilization section (applied nutrition)' report by J.L. Corbett, 12 May 1953.
- 4pp typescript.
- E.82                    '(Notes for inclusion in Mr Bailey's dissertation)' by Synge and D.L. Mould, 26 March 1952.
- 1p typescript + table.
- E.83-E.85            'Tomter Grass production. On Moss surface in connection with Power or Fuel production'. Contents of Synge's folder so inscribed divided into three for ease of reference. ca 1953.
- E.83                    'Orkney Reclamation Scheme Holm Area - Section II Report on reconnaissance 15th October - 16th October, 1953'. 11pp typescript + map.
- E.84, E.85            Duplicated typescript Appendices to report on grass production on moss surface. 2 folders.
- E.86                    'Tropical Products Institute Confidential Toxic groundnuts'. Contents of Synge's folder so inscribed.
- The Director of the Rowett Research Institute was invited to a meeting to discuss a toxin in certain batches of groundnuts. He was unable to attend and Synge went in his place. Following the meeting the Rowett Research Institute undertook some research into the subject.
- Correspondence and papers 1961-1962.
- E.87, E.88            'Potato Malic Enzyme Inhibitors'. Contents of folder so inscribed divided into two for ease of reference (not in Synge's hand).
- Notes, print-outs, spectrographs etc from work on malic enzyme inhibitor by D.T. Coxon, 1974-1975.

### Research

- E.89-E.94      'String searches Formula Book Crossbow documents'. Contents of Synge's bag so inscribed divided into six for ease of reference. Papers relating to computer searches for chemical information, 1981.
- See also E.42 above.
- E.89      'Crossbow connection tables    Latest description and various examples'. Contents of Synge's envelope so inscribed.
- E.90-E.94      Computer print-outs from searches, some annotated. 5 folders.
- E.95, E.96      'Green Wood & relevant literature'. Contents of envelope so inscribed divided into two for ease of reference.
- E.95      Letter from R. Hill to Synge, 5 November 1981; brief correspondence with R.H. Thomson *re* artificial greening of wood, 1985; manuscript notes.
- E.96      Sample of 'Green Wood', with copy of 1913 Patent relating to greening process.
- E.97      'Prof. M.F. Lynch & Prof. J.-E. Dubois' by Synge, 7pp manuscript draft so titled, *re* connection tables in Chemical Abstracts Service Registry of chemical substances, October 1987.
- E.98      'Velocity distribution and entropy in a perfect gas'. N.d. (Possibly 1930s).  
9pp manuscript notes.
- E.99      'Debye Hückel Theory'. N.d. (Possibly 1930s).  
7pp manuscript notes.
- E.100      'X-ray data on silica gel    ppt. fr. waterglass dil 1:3, 1:8    also BDH product Mrs Preston'. Contents of Synge's envelope so inscribed: photographic data from samples; manuscript table. N.d.
- E.101      Miscellaneous and typescript notes, n.d.

**SECTION F**

**PUBLICATIONS, LECTURES AND BROADCASTS**

**F.1-F.197**

The material is presented as follows:

F.1-F.118	PUBLICATIONS
F.119-F.171	LECTURES
F.172-F.176	BROADCASTS
F.177-F.192	'UNPUBLISHED ETC'
F.193-F.197	OFF-PRINTS



Publications, lectures and broadcasts

**F.1-F.118                      PUBLICATIONS                      1940-1992**

F.1-F.70	Drafts
F.71-F.90	Translations
F.91-F.118	Editorial correspondence

**F.1-F.70                      Drafts                      1940-1992**

A chronological sequence of material relating to publications, or to the intention to publish. Where applicable reference has been made to the bibliography of Synge's published work in the Royal Society memoir of Synge (A.1) in the form *Bibliog.* ...

For Synge's set of 'Unpublished' drafts see F.177-F.192, for drafts of a more political nature see A.413-A.415.

F.1                      'Average residue weight of the amino acids of silk fibroin', *Journal of Biological Chemistry*, ca 1940.

2pp typescript draft; manuscript draft and calculations.

F.2                      'Partition chromatography in the study of protein constituents', with A.H. Gordon and A.J.P. Martin, *Bibliog.* 14 (1943).

Brief correspondence with editor, 1942.

'The amino-acid composition of tyrocidine', with A.H. Gordon and A.J.P. Martin, *Bibliog.* 17 (1943).

Correspondence with editor, 1943.

F.3                      'The etherification of hydroxyamino-acid residues in silk fibroin by dimethyl sulphate', with A.H. Gordon and A.J.P. Martin, *Bibliog.* 18 (1943).

Brief correspondence with editor, 1943.

**Publications, lectures and broadcasts**

- F.4, F.5 'Partial hydrolysis products derived from proteins and their significance for protein structure', *Bibliog.* 19 (1942).
- Brief correspondence from editor, 1941-1942; 79pp typescript draft. 2 folders.
- F.6 'Analysis of a partial hydrolysate of gramicidin by partition chromatography with starch', *Bibliog.* 21 (1944).
- Correspondence with editor, 1944.
- F.7 'The non-identity of Thudichum's "glycoleucine" and norleucine', with R. Consden *et al*, *Bibliog.* 22 (1945).
- Brief correspondence with editor, 1945.
- See also E.64, E.65.
- F.8 'Qualitative analysis of proteins. A partition chromatographic method using paper', with R. Consden, A.H. Gordon, and A.J.P. Martin. Not listed in *Bibliog.*, latest bibliographical reference 1944.
- 15pp typescript + figures.
- F.9 'The hydroxyamino component of gramicidin hydrolysates', 'The kinetics of low temperature acid hydrolysis of gramicidin and of some related dipeptides', and ' "Gramicidin S": over-all chemical characteristics and amino-acid composition', *Bibliog.* 23, 24 and 25 (1945).
- Correspondence with editor, 1945.
- F.10 'Analytical chemistry of proteins', with A.J.P. Martin, *Advances in Protein Chemistry* 2 (1946).
- Correspondence with Martin and J.T. Edsall, editor, chiefly *re* corrections of proofs.
- F.11 ' "Gramicidin S": the sequence of the amino-acids residues', with R. Consden, A.H. Gordon, and A.J.P. Martin, *Bibliog.* 32 (1947).
- Correspondence *re* publication, 1945, 1947.



**Publications, lectures and broadcasts**

- F.12                    'Synthesis of some dipeptides related to "gramicidin S" ', *Bibliog.* 33 (1948).  
Correspondence with editor, 1947.
- F.13                    Untitled manuscript draft beginning 'In the autumn of 1941, shortly after Dr A.J.P. Martin and I had obtained our first successful results with partition chromatography' describing early work on gramicidin. Latest bibliographical reference 1949.
- F.14                    'Proteins and Peptides', *Bibliog.* 40 (1950).  
Correspondence *re* publication, 1947-1949; manuscript notes.
- F.15                    Book review of *Progress in Chromatography 1938-1947* by L. Zechmeister (1950), for *Proceedings of the Physical Society*.  
2pp typescript; proof.  
  
'Facts and speculations about proteins', book review of *Chemistry and Biology of Proteins* by F. Haurowitz (1950), for *Nature*.  
Proof.
- F.16                    'Some observations on the utilization of protein-rich supplements by sheep' by Synge and M.I. Chalmers, submitted to the *British Journal of Nutrition* 1950.  
4pp manuscript draft; 4pp typescript draft; brief correspondence, 1950.
- F.17                    'Methods for isolating  $\omega$ -amino-acids:  $\gamma$ -aminobutyric acid from rye grass', *Bibliog.* 43 (1951), 429-435.  
Correspondence *re* publication, 1950-1951.
- F.18                    'Non-protein nitrogenous constituents of rye grass: ionophoretic fractionation and isolation of a "bound amino-acid" fraction'. *Bibliog.* 44 (1952).  
Correspondence *re* publication, 1951.



**Publications, lectures and broadcasts**

- F.19 'Facts and speculations about proteins', book review of *Chemistry and Biology of Proteins* by F. Haurowitz, *Nature* **170**, 5 July 1952.
- F.20 'Note on the occurrence of diaminopimelic acid in some intestinal micro-organisms from farm animals', *Bibliog.* 50 (1953).  
  
Correspondence *re* publication, 1952-1953.
- F.21 Book review of *Paper Chromatography: a laboratory manual* by R. J. Block, for *Laboratory Practice*, April 1953.  
  
Brief correspondence, 1952-1953; 3pp typescript draft.
- F.22 Draft on M.S. Tsvet for *World Student News*, 1953.  
  
Correspondence *re* publication, 1953; 2pp typescript.
- F.23 Memorandum of Agreement between the Clarendon Press, Oxford, and Synge, A.T. Phillipson and S.R. Elsdon for book entitled 'Ruminant Digestion (or similar title)', signed 27 January 1953; manuscript and typescript plan for the book; correspondence between co-authors and with publishers 1952-1953.
- F.24 'Separations of polysaccharides related to starch by electrokinetic ultrafiltration in collodion membranes' (*Bibliog.* 56, 1954) and 'The electrophoretic mobility and fractionation of complexes of hydrolysis products of amylose with iodine and potassium iodide' (*Bibliog.* 57, 1954).  
  
Correspondence *re* publication, 1954.
- F.25, F.26 'The digestion of protein and nitrogenous compounds in ruminants', *Bibliog.* 58 (1954).  
  
Correspondence *re* publication, 1951-1955. 2 folders.
- F.27 '(+) - (S-methyl-L-cysteine S-oxide) in cabbage', with J.C. Wood, *Bibliog.* 64 (1956).  
  
Correspondence *re* publication, 1956.

**Publications, lectures and broadcasts**

- F.28 'Experiments on electrical migration of peptides and proteins inside porous membranes: influences of adsorption diffusion and pore dimensions', *Bibliog.* 66 (1956).  
  
Correspondence *re* publication, 1956.
- F.29 Book review of *Chromatography* by E. and M. Lederer, for *Journal of the Royal Institution of Chemistry* 1957.  
  
3pp typescript.
- F.30 'Filter-paper ionophoresis of cupric complexes of neutral amino acids and oligopeptides', *Bibliog.* 77 (1961) and 'Metabolic incorporation of  $L-[^{14}C]$  valine into protein and bound non-protein forms in Italian ryegrass', *Bibliog.* 78 (1961).  
  
Correspondence *re* publication, 1960.
- F.31 Book review of *Chromatographic Reviews* ed. M. Lederer, for *Chemistry & Industry*, 1962.  
  
Request to write review; 2pp typescript.
- F.32 'New procedures for isolating polypeptides and proteins from tissues: metabolic incorporation of  $L-[^{14}C]$  valine into fractions of intermediate molecular weight in broad bean (*Vicia faba* L.) leaves' with M. Bagdasarian *et al*, *Bibliog.* 84 (1964).  
  
Correspondence *re* publication, 1963.
- F.33 'Science for the good of your Soul', *Bibliog.* 87 (1964).  
  
Correspondence and papers *re* publication, 1963-1965.
- F.34 'A search for O-polypeptidyl-ribonucleic acids in rabbit-reticulocyte ribosomes by electrophoresis in phenol-acetic acid-water systems' with I. Brattsten and W.B. Watt, *Bibliog.* 90 (1965).  
  
Correspondence *re* publication, 1965; typescript of 'Original Discussion' paginated 20-25.



**Publications, lectures and broadcasts**

- F.35 'Nutritional precept and dietary practice', *Bibliog.* 91 (1966).  
Copy of article; correspondence, 1964-1966.
- F.36 'Recent advances in electrophoretic techniques' with E.I. McDougall, *Bibliog.* 92 (1966).  
Correspondence *re* publication, 1964-1966.
- F.37 Foreword to book on US use of napalm in Vietnam.  
Photocopied manuscript draft; correspondence, 1966.
- F.38 'Occurrence in plants of amino acid residues chemically bound otherwise than in proteins', *Bibliog.* 97 (1968).  
Correspondence *re* publication, 1965.  
  
'Proteins as human food', book review of *Proceedings of the 16th Easter School in Agricultural Science*, ed. by R.A. Lawrie (1969).  
3pp typescript.
- F.39, F.40 'An obstacle in preparing alloseleucine' with W. M. Laird and S. Matai, *Bibliog.* 100 (1970).  
  
This was initially submitted to the *Journal of the Chemical Society* but rejected as of insufficient scientific interest. A revised version was accepted by the *Biochemical Journal*.
- F.39 Correspondence with the Chemical Society and others *re* publication, 1969; typescript pages of rejected draft.
- F.40 Two slightly different typescript drafts; correspondence with the *Biochemical Journal re* publication.
- F.41 'N-Carbamoyl-2-(*p*-hydroxyphenyl) glycine from leaves of broad bean (*Vicia faba* L.)', *Bibliog.* 103 (1971).  
  
32pp photocopied typescript; correspondence *re* publication, 1970-1971.



**Publications, lectures and broadcasts**

- F.42 Book review of *Proteins as Human Food* ed. R. A. Lawrie, for *Experimental Agriculture*, ca 1971.  
Manuscript draft; correspondence *re* publication, 1970-1971.
- F.43-F.46 'Notes on a deamination method for determining "chemically available" lysine of proteins', with R.M. Allison and W.M. Laird, *Bibliog.* 106 (1973).
- F.43 8pp typescript draft.
- F.44, F.45 Correspondence with co-authors and others *re* drafts of article, 1969-1971.
- F.44 1969-1970.
- F.45 1971.
- F.46 Correspondence *re* publication, 1971-1972.
- F.47-F.52 'Ascorbic acid: an ascorbigen-like plant constituent yielding in hot acid 3-(2-furoyl) alanine', with R. Couchman *et al*, *Bibliog.* 107 (1973).
- F.47 36pp photocopied typescript.
- F.48-F.50 Correspondence with co-authors and others *re* drafts of article, 1970-1972
- F.48 1970.
- F.49 1971.
- F.50 1972.
- F.51 Correspondence *re* and arising from publication 1972-1973.

**Publications, lectures and broadcasts**

- F.52 Manuscript draft pages, notes and calculations.
- F.53 'Hydrogenation as an approach to study of reactions of oxidising polyphenols with plant proteins', with R. Davies and W. M. Laird, *Bibliog.* 110 (1975).  
18pp photocopied typescript.
- F.54 Book review of *Food Protein Sources* by N. W. Pirie, for *Experimental Agriculture*, 1976.  
Brief correspondence, 1976; 1p typescript.
- F.55 'Coupling of quinones with proteins and amino-acids' with R. Davies, *Bibliog.* 119(a) (1978)  
10pp photocopied typescript.
- F.56 'Maurice William Rees 1915-1978', *Bibliog.* 122 (1978).  
Photocopy of annotated obituary. The annotations record 'Footnotes omitted in editing'.  
For related correspondence see J.244.
- F.57 'Free and bound phenolic acids of lucerne (*Medicago sativa* v Europe)', with V.K. Newby *et al*, *Bibliog.* 126 (1980).  
13pp photocopied typescript.
- F.58-F.60 'Mass-spectrometric evidence for quinonoid-lysine coupling products in cigar protein', with J. Eagles and J. F. March, *Bibliog.* 127 (1980).  
80pp photocopied typescript. 3 folders.
- F.61-F.67 '25 years of *Science Citation Index* - some experiences', *Bibliog.* 131 (1990).
- F.61 Manuscript draft.

**Publications, lectures and broadcasts**

- F.62, F.63 'Correspondence rel. to 1990 paper about SCI'. Contents of Synge's envelope so inscribed divided into two for ease of reference: correspondence, 1986-1990.
- F.62 Possible publication of proceedings of Conference on Multi-disciplinary Approaches to Searching for Information about Chemicals' (see G.215-G.222, H.97).
- F.63 Publication of *Bibliog.* 131.
- F.64-F.67 Background material: manuscript notes, computer print-outs from *Science Citation Index*, correspondence 1980s. 4 folders.
- F.68 'How the Robinsons nearly invented partition chromatography in 1934', *Bibliog.* 133 (1992).  
  
5pp photocopied manuscript; 4pp typescript 'Amended by Author'; correspondence, 1991-1992.
- F.69 Book review of *Science versus Materialism* by R.O. Kapp. N.d., possibly 1940s.  
  
4pp typescript draft.
- F.70 'Draft of section on amino-acids'. N.d.  
  
Typescript with manuscript correction.
- F.71-F.90                      Translations                      ca 1940-1977**
- F.71-F.75 'Ed. Sergiev, I. G. Pamphlet on Gramicidin S and translation thereof'. Contents of envelope so inscribed.
- F.71 Hardback notebook inscribed inside front cover 'Translations of Russian papers abstracted'. Used from the front for translations in Synge's hand of articles from *Biokhimiya* 5 (1940), and from the back for translation in Ann Synge's hand of article from *Biokhimiya* 7 and (in both hands) of 'Soviet Gramicidin and the treatment of wounds' (1943).



**Publications, lectures and broadcasts**

- F.72, F.73      35pp manuscript draft translation in Synge's hand of 'Gramicidin and its Properties' by G.F. Gause and M.G. Brazhnikova.  
  
2 folders.
- F.74      Pages of manuscript draft translations of Russian scientific papers in Synge's hand *ca* 1943; letter *re* translation from F.A. Robinson, 15 May 1944.
- F.75      Off-print of 'Soviet Gramicidin and the treatment of wounds', 1943.
- F.76      Translation of 'Gramicidin "S": its origin and mode of action' by G.F. Gause and M.G. Brazhnikova. Latest bibliographical reference 1943.  
  
19pp typescript.
- F.77      'On the chemical nature of gramicidin S' (in Russian). Latest bibliographical reference 1944.  
  
10pp typescript.
- F.78, F.79      Translation (by Synge) of 'A review of recent work on Gramicidin S' by G.F. Gause.  
  
Translated by Synge for the *Lancet* 1946.
- F.78      10pp typescript with manuscript corrections; 9pp corrected typescript.
- F.79      Correspondence with Gause and publishers, 1946.
- F.80      Translation (not by Synge) of 'Preface to the Polish edition' of book on plant biochemistry. Latest bibliographical reference 1950.  
  
2pp typescript.

**Publications, lectures and broadcasts**

- F.81 Translation (by Ann Synge) of *The Origin of Life on the Earth* by A.I. Oparin. 1958.
- Correspondence re publication of *The Origin of Life on the Earth* and possible follow-up book 'The Nature of Life', 1958-1960.
- F.82-F.90 'Mikhail Semenovitch Tsvet 1872-1919' by E.M. Senchenkova.
- Synge was approached by Senchenkova in 1975. She asked Synge to comment on her biography of Tsvet which had been published (in Russian) by Nauka, Moscow, in 1973. Synge was impressed by the work and suggested an English-language translation, offering to translate it himself.
- F.82-F.84 Correspondence with Senchenkova, publishers and others 1975-1977. 3 folders.
- Correspondence from Senchenkova is in Russian.
- F.85 Manuscript and typescript lists of contents of Senchenkova's book; 12pp typescript 'specimen translations of passages'.
- F.86, F.87 Typescript draft of 'Mikhail Semenovitch Tsvet 1872-1919' (in Russian) with manuscript corrections, sent to Synge 4 April 1978. 2 folders
- F.88, F.89 Unbound copy of 'Mikhail Semenovitch Tsvet 1872-1919' (in Russian) with manuscript alterations. 2 folders.
- F.90 Off-prints (in Russian) found with preceding.
- F.91-F.118 Editorial correspondence 1940-1992**
- Arranged alphabetically by publisher or journal title.
- F.91 Academic Press 1950, 1953, 1969, 1970
- 1950 material is invitation from K. Bailey to contribute to Academic Press book on Proteins (declined).

**Publications, lectures and broadcasts**

F.92	<i>The Analyst</i>	1952, 1954-1955, 1991
	1954-1955 material is request to write book review (declined); 1991 material includes correspondence <i>re</i> possible translation of E.M. Senchenkova's biography of M.S. Tsvet (see F.82-F.90).	
F.93	<i>Analytical Biochemistry</i>	1959
	Invitation to join advisory board (declined).	
F.94	<i>Analytical Chemistry</i>	1948
	Editorial policy.	
	<i>Archives of Biochemistry and Biophysics</i>	1965
	Refereeing.	
F.95	<i>Biochimia/Biokhimiya</i>	1956
	Invitation to submit paper (declined).	
F.96	<i>Biochimica et Biophysica Acta</i>	1961
	Letter from Synge <i>re</i> journal's editorial policy	
F.97	<i>Biological Reviews</i>	1947
	Invitation to write review article (declined).	
F.98	British Council	1943, 1945
F.99	Butterworths	1963
	Reprinting papers by Synge.	



**Publications, lectures and broadcasts**

- |       |   |            |
|-------|---|------------|
| F.100 | <i>Chemical Abstracts</i>   | 1943-1972  |
|       | Chiefly correspondence <i>re</i> inadequate or inaccurate abstracts.                        |            |
| F.101 | Chemical and Engineering News   | 1952       |
|       | <i>Chemistry and Industry</i>   | 1952, 1955 |
|       | Refereeing.   |            |
| F.102 | <i>Chemistry in Britain</i>   | 1980       |
|       | Invitation to write obituary of Raphael Consden (declined).                                 |            |
|       | CRC Press   | 1976       |
|       | Invitation to write section for <i>CRC Handbook of Nutrition and Food</i> .                 |            |
| F.103 | Crosby Lockwood & Son Ltd   | 1961       |
|       | Invitation to write monograph for series on nutrition (declined).                           |            |
|       | Deutsche Akademie der Wissenschaften zu Berlin  | 1964       |
|       | Invitation to contribute to festschrift volume for K. Mothes (declined).                    |            |
| F.104 | Elsevier Publishing Company   | 1957, 1959 |
|       | Invitation to write monograph (declined), request to publish 1958 Lindau lecture (granted). |            |
|       | Faraday Society   | 1953       |
|       | Request to review book for <i>Transactions</i> (declined).                                  |            |
| F.105 | Interscience Publishers   | 1954       |
|       | Invitation from G.M. Burnett to co-edit book (declined).                                    |            |

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**Publications, lectures and broadcasts**

/...	<i>Interdisciplinary Science Reviews</i>	1983
	Book review.	
	<i>Irish Journal of Agricultural Research</i>	1967
	Refereeing.	
F.106	<i>Journal of Chemical Research</i>	1977
	Refereeing	
	<i>Journal of Dairy Research</i>	1966
	Refereeing.	
F.107	<i>Journal of Endocrinology</i>	1954
	Refereeing.	
	<i>Journal of the Science of Food and Agriculture</i>	1951, 1953, 1976
	Refereeing.	
F.108	<i>Journal of the Society of Chemical Industry</i>	1940
	Article by Synge.	
	Leicester University Press	1991
	Possible translations of books on the history of science.	
	Macmillan Education Ltd	1977
	Reproducing photographs.	
	<i>Modern Quarterly</i>	1945
	Invitation to write book review.	

Publications, lectures and broadcasts

- |       |  |                 |
|-------|--|-----------------|
| F.109 | <i>Nature</i>  | 1945, 1949-1965 |
|       | 1949 item is typescript report of Synge and M. Klungsöyr (see also E.75-E.80); refereeing. |                 |
| F.110 | <i>Nutrition Abstracts and Reviews</i>   | 1964            |
|       | Invitation to write review article.  |                 |
|       | Oliver & Boyd  | 1957-1962       |
|       | Requests to comment on books.  |                 |
| F.111 | <i>Phytochemistry</i>  | 1970-1974       |
|       | Refereeing.  |                 |
| F.112 | Plenum Publishing Corporation  | 1966            |
|       | <i>Re</i> translating book from Russian.   |                 |
|       | <i>Proceedings of the Physical Society</i>   | 1950            |
|       | Request to write book review.  |                 |
| F.113 | Reinhold Publishing Corporation  | 1950            |
|       | Request to write on partition chromatography for book (declined).                          |                 |
|       | Royal Society of Chemistry   | 1980            |
|       | Refereeing.  |                 |
| F.114 | <i>Samvadadhvam</i>  | 1973            |
|       | Invitation to write article on P.C. Mahalanobis.   |                 |
|       | <i>Science</i>   | 1948            |
|       | Editorial policy.  |                 |
|       |  | /...            |



**Publications, lectures and broadcasts**

/...	Shueisha Incorporated Request to write article.	1992
F.115, F.116	Springer-Verlag Correspondence re contribution to book on <i>Modern Methods of Plant Analysis</i> .	1952-1961
F.115	1952-1954.	
F.116	1955-1956, 1961.	
F.117	<i>Space Life Sciences</i> Invitation to join editorial board (declined).	1966
	<i>Talanta</i> Refereeing.	1966
	<i>Trends in Biochemical Sciences</i> Request to write article (declined).	1976
F.118	<i>Urania</i>  <i>World Review of Nutrition and Dietetics</i> Requests to write articles (declined).	1964  1957, 1963

**Publications, lectures and broadcasts**

F.119-F.171	LECTURES	1942-1984, n.d.
F.119	<p>'How do proteins work?', Leeds Medical School, 13 May 1942.</p> <p>4pp manuscript.</p> <p>'Recent progress in protein analysis', <i>ca</i> 1942.</p> <p>5pp manuscript + 1p manuscript note.</p>	
F.120	<p>'The arrangement of amino-acid residues in Gelatin', <i>ca</i> 1943.</p> <p>5pp manuscript.</p> <p>'Paper for discussion on chromatography - Nov. 7'. N.d. but found with preceding.</p> <p>6pp manuscript.</p>	
F.121, F.122	<p>'Les moyens chimiques d'approche de la structure des protéines', meeting of Société de Chimie Biologique, Paris, France, 10 July 1945.</p> <p>See also G.1.</p>	
F.121	<p>9pp typescript of lecture (in French).</p>	
F.122	<p>13pp manuscript of English version.</p>	
F.123	<p>'The biochemistry of proteins', lecture course at Department of Chemistry, Chelsea Polytechnic, London, 17 February - 23 March 1947.</p> <p>Correspondence and papers <i>re</i> arrangements, 1947; manuscript notes for Synge's lectures.</p>	
F.124	<p>Lecture at Department of Chemistry Colloquium, University of Aberdeen, 24 May 1950.</p> <p>Invitation and letter <i>re</i> arrangements, April 1950.</p>	

**Publications, lectures and broadcasts**

- F.125 'Structure and Biological Significance of Proteins', lecture course at Department of Biological Chemistry, University of Aberdeen, 15 February - 8 March 1951.
- Synge gave four lectures on 'The less well-known natural amino-acids', 'Natural peptides', 'The synthesis and breakdown of protein in living organisms' and 'The use in biochemistry of separations depending on electrical transport'.
- Invitation; correspondence *re* arrangements, 1950-1951; manuscript notes.
- F.126, F.127 'Biological aspects of proteins in the light of recent chemical studies', Royal Institute of Chemistry second P.F. Frankland Memorial Lecture, Birmingham, 18 May, and at the Institution of Electrical Engineers, London, 20 July 1951.
- F.126 Correspondence *re* arrangements for lecture in Birmingham, 1951.
- F.127 Correspondence *re* arrangements for lecture in London, publication of lecture, and Fellowship of the Royal Institute of Chemistry, 1951-1952.
- F.128 'El. transport methods', Department of Biochemistry, Dundee University, 21 November 1951.
- Annotated invitation only, September 1951.
- F.129 'Chromatographic methods of separating substances', Glasgow University Alchemists' Club, 30 January 1952.
- Correspondence *re* arrangements, 1951-1952.
- F.130 'Chromatography', Bristol University Student Chemical Society, 31 January 1952.
- Correspondence *re* arrangements, 1950-1952.
- F.131 'Chromatography', Society of Chemical Industry, Aberdeen and North of Scotland branch, Aberdeen, 28 March 1952.
- Correspondence *re* arrangements, 1951-1952.



**Publications, lectures and broadcasts**

- F.132                      'Impressions of a visit to Poland', Polish Cultural Institute, London, 3 December 1952.
- Letter *re* arrangements, 17 November 1952.
- F.133                      'Chromatography', St Andrews University Chemical Society, 23 January 1953.
- Correspondence *re* arrangements, 1952-1953.
- F.134                      'Protein requirements of ruminant animals', Society of Chemical Industry, Liverpool section, Bangor, 12 February 1953.
- Correspondence *re* arrangements, 1952-1953.
- Invitation to lecture to Andersonian Chemical Society, Royal Technical College, Glasgow on 13 March 1953 (declined).
- F.135                      Postgraduate course in Chemistry, Robert Gordon's Technical College, Aberdeen, 21 October - 5 November 1953.
- Synge gave three lectures on Chromatography.
- Correspondence and papers *re* arrangements, 1953.
- F.136                      'Proteins', Aberdeen branch, Worker's Educational Association (WEA), 23 October 1953.
- List of WEA lectures; letter of thanks, October 1953.
- F.137                      'Chromatography', British Postgraduate Medical Federation, London, 12 November 1953.
- Correspondence and papers *re* arrangements, 1953.
- F.138                      'Principles of Chromatography', North of England section, Society of Public Analysts and other Analytical Chemists, Liverpool, 23 November 1953.
- Correspondence *re* arrangements, 1953.

**Publications, lectures and broadcasts**

- F.139                    'Principles of Chromatography', Joint meeting of Society of Public Analysts, Royal Institute of Chemistry and Society of Chemical Industry, Falkirk, 16 December 1953.
- Correspondence *re* arrangements, 1953.
- F.140                    Invitation to lecture to Aberdeen University Chemologists' Club, November or December 1953 (declined).
- F.141                    'Principles of Chromatography', Andersonian Chemical Society, Royal Technical College, Glasgow, 8 January 1954.
- Correspondence *re* arrangements, 1953-1954.
- F.142                    Invitation to lecture to University of St Andrews Scientific Society, Dundee, on 21 January 1954.
- Invitation to lecture on chromatography, Royal Technical College, Salford, Lancashire, in September 1954 (declined).
- Invitation to lecture to Cumberland and District branch, Royal Institute of Chemistry, in September or October 1954 (declined).
- F.143                    'Principles of Chromatography', Cumberland and District branch, Royal Institute of Chemistry, Seascale, Cumberland, 6 January 1956.
- Correspondence *re* arrangements, 1955-1956.
- F.144                    'Principles of Chromatography', Society of Chemical Industry Annual Meeting, Leeds, 11 July 1957.
- Correspondence *re* arrangements and publication, 1957.
- F.145                    Invitation to lecture on methods of analysis for amino acids, Kingston Technical College, Surrey, on 11 November 1958 (declined).

**Publications, lectures and broadcasts**

- F.146                    'Some recent developments in methods for separating larger molecules',  
Biological Chemistry Colloquium, University of Bristol, 20 May 1960.  
  
Correspondence *re* arrangements, 1958-1960.
- F.147                    'Molecular-sieve efforts for separating larger molecules', Cambridge  
University Natural Science Club, 10 November 1960.  
  
Correspondence *re* arrangements, 1959-1960.
- F.148                    Invitation to lecture on 'Determination of amino-acid sequences in protein  
molecules', Bradford Institute of Technology, on 18 November 1960  
(declined).
- F.149                    'The use of molecular-sieve effects for separating substances of high  
molecular weight', Royal Society of Edinburgh, 5 December 1960.  
  
Correspondence *re* arrangements, 1960.
- F.150                    'Proteins - what they are and what they do', Aberdeen Schools Scientific  
Society, 20 January 1961.  
  
Correspondence *re* arrangements, 1960-1961.
- F.151                    'Use of molecular-sieve effects for separating substances of high molecular  
weight', University of Aberdeen Chemistry Society, 26 January 1961.  
  
Correspondence *re* arrangements, 1960-1961.
- F.152                    'Use of molecular-sieve effects for separating substances of larger  
molecules', Research and Development Department, Distiller's Co. Ltd,  
Epsom, Surrey, 21 June 1961.  
  
Correspondence *re* arrangements, 1961.
- F.153                    Invitation to deliver lectures to Biochemistry Department, University of  
Aberdeen, in 1961 (accepted).



**Publications, lectures and broadcasts**

- F.154                    'The non-protein nitrogen of plants', Department of Agricultural Botany, University of Reading, 21 February 1962.
- Correspondence *re* arrangements, 1961-1962.
- F.155                    'Chemistry and metabolism of peptide-like substances in leaves', Department of Chemistry, University College Dublin, Ireland, 10 April 1963.
- Correspondence *re* arrangements, 1962-1963.
- F.156                    British Council course on Ruminant metabolism, Aberdeen, 26 May - 7 June 1963. Synge lectured on the chemistry of foodstuffs.
- Papers *re* arrangements, 1962-1963.
- F.157                    'Paper chromatography', University of Manchester Chemical Society, 9 March 1965.
- Correspondence and papers *re* arrangements, 1964-1965.
- F.158                    British Council course on Ruminant metabolism, Aberdeen, 9-22 May 1965. Synge lectured on the chemistry of foodstuffs.
- Papers *re* arrangements; course programme. 1965.
- F.159                    'New approaches to fractionating plant material', Unilever Research Laboratory, Bedford, September 1966.
- Correspondence *re* arrangements, 1966.
- F.160                    'Non-protein amino-acid compounds in leaves', National Institute for Research in Dairying, University of Reading, 5 February 1969.
- Correspondence *re* arrangements, 1968-1969.
- F.161                    'Proteins - nutritional potential and nutritional performance', Food Group, Society of Chemical Industry, Food Research Institute, Norwich, 5 March 1969.
- Letter from Synge *re* arrangements, 19 June 1968; 7pp manuscript + diagrams.

**Publications, lectures and broadcasts**

- F.162 'Acyl amino acids and related compounds in higher plants and algae', lecture to Phytochemical Society meeting, 11-12 September 1969 and to Indian Statistical Institute, Bangalore, India, 4 February 1970.
- Rough manuscript draft paginated 1-11, with extensive addition and correction.
- F.163 'Polyphenol-protein reactions and their significance for agricultural practices', Department of Food Science, University of Leeds, 13 February 1980.
- Correspondence *re* arrangements, 1979-1980.
- F.164, F.165 'The chemist's work and the literature of chemistry', annotated 'As given at Lindau Lecture 1980'.
- F.164 20pp manuscript.
- F.165 Rough manuscript draft and notes.
- F.166, F.167 Two lectures delivered at Chemical Structure Association meeting, Exeter, 1982.
- F.166 'Some good and bad experiences with the "secondary" and "tertiary" services - also a few suggestions for improvements'.
- 6pp photocopied manuscript; correspondence *re* the papers, 1982-1983.
- F.167 'Working chemists and the quality of the primary literature'.
- 11pp photocopied manuscript.
- F.168 'Methods and Techniques [in Chromatography]', lecture course at University of East Anglia, November - December 1984.
- Manuscript notes; course outline; memoranda *re* course material.

**Publications, lectures and broadcasts**

F.169 'History of the concept of energy'. N.d.

6pp typescript.

F.170 'The search for intermediates in protein biosynthesis'. N.d.

Manuscript draft.

'Peptides in the study of the biological function of proteins'. N.d.

Manuscript draft.

F.171 Untitled draft beginning: 'E' molto facile, particolarmente per chi studia un campo così complesso come la biocimica dell proteine'.

10pp typescript (in Italian).

**F.172-F.176**

**BROADCASTS**

**1947-1961**

See also A.183, A.184.

F.172, F.173 'New methods of protein analysis', BBC Russian service, 22 August 1947.

Syge wrote the script for the talk for the BBC which was then translated into Russian.

F.172 Correspondence with BBC *re* arrangements, June-August 1947.

F.173 5pp typescript

F.174 Untitled draft on partition chromatography annotated 'BBC Swedish service. Broadcast 7/12/53'.

2pp typescript.



**Publications, lectures and broadcasts**

- F.175 'The origin of life on Earth', BBC Radio Third Programme discussion, recorded 5 February 1958.
- The discussion was led by J.D. Bernal and other participants included N.W. Pirie, L.E. Orgel and P.D. Mitchell.
- Correspondence *re* arrangements.
- F.176 Brief correspondence from Associated Television (ATV) Ltd *re* contribution to television programme on 'Freedom from Want', 1961.
- F.177-F.192 **'UNPUBLISHED ETC'** **ca 1938-1979, n.d.**
- Contents of Synge's two folders so inscribed. The second folder was found inside the first. Chiefly drafts by Synge, including book-reviews.
- F.177-F.184 First folder.
- F.177 'Protection from poison gas', book review of *On Guard against Gas* by H.A. Sisson and *Breathe freely! The truth about poison gas* by James Kendall (1938).
- 1p (incomplete).
- F.178 Book reviews of *The Social Function of Science* by J.D. Bernal (1939).
- 'The social function of science', 2pp typescript; 'Scientific research from the inside', 5pp typescript.
- F.179 'The unmysterious universe', book review of *Modern Science: a study of physical science in the world today* by Hyman Levy (1939).
- 3pp typescript.
- F.180 'Proteins and evolutionary theory', latest bibliographical reference 1943.
- 12pp manuscript + references.

**Publications, lectures and broadcasts**

- F.181                      Book review of *Paper chromatography: a laboratory manual* by R.J. Block *et al* (1952), for *Laboratory Practice*.  
  
3pp typescript.
- F.182                      'Diffusible peptide-like and glycosidic constituents of Italian rye-grass' by Synge and J.C. Wood 'Read Biochem. Soc. 12/12/53'.  
  
3pp typescript.
- F.183                      'Suggested syllabus' for course on history and development of science, n.d.  
  
6pp typescript.
- 'History of Science', outline for two volume book, n.d.  
  
1p typescript.
- F.184                      Manuscript notes on development of science, n.d.
- F.185-F.192              Second folder.
- F.185                      Duplicated typescript notes on Proline, annotated 'N.W. Pirie's class Oct. 1935'.
- F.186                      Typescript and manuscript notes on anthocyanin pigments, ?1930s.
- F.187                      'Summarized data on adsorption experiments with amino-acids and lower peptides on charcoal'.  
  
Account of work done at the Fysikalisk-Kemiska Institution, Uppsala, Sweden, November 1946-March 1947 (see B.7-B.13).  
  
6pp typescript.

F.188	Reading list on 'Relations of phenolic with nitrogenous compounds in plants', September 1971.  Probably prepared for a course at the Food Research Institute, Norwich.
F.189, F.190	'Partial-Structure searching - some phytochemical desiderata', lecture to Information Division of the Chemical Society, University of Warwick, Coventry, September 1978.
F.189	16pp photocopied typescript.
F.190	Manuscript notes.
F.191	'Chromatographic methods', book review of <i>Laboratory Handbook of Chromatographic and Allied Methods</i> ed. by O. Mike (1979).  Corrected proof copy.
F.192	Manuscript list of chemicals, with prices from suppliers compared, n.d.
<b>F.193-F.197</b>	<b>OFF-PRINTS</b>
F.193-F.195	Bound volumes of Syngé's 'Scientific publications'.
F.193	'1-48 1937-1952'.
F.194	'49-76 1953-1961'.
F.195	'77-94 1961-1968'.
F.196	Off-prints of later publications, 1969-1992. Numbered 95-130.
F.197	Off-prints of unnumbered publications.



**SECTION G**

**VISITS, CONFERENCES AND TRAVEL**

**G.1-G.249**

The material is presented chronologically 1945-1992. Material relating either to invitations declined or for which there is no evidence of acceptance has been placed at the end of the section (G.232-G.249). For papers relating to Synge's visit to Sweden 1946-1947 see B.7-B.13.

**1945**

G.1

Société de Chimie Biologique meeting, Paris, France, 10 July 1945.

Synge spoke on 'Les moyens chimiques d'approche de la structure des protéines'.

Notice; correspondence *re* arrangements, 1945.

See also F.121, F.122 for text of lecture.

**1948**

G.2

Biochemical Society symposium on Partition Chromatography and its Application to Biochemical Problems, London School of Hygiene and Tropical Medicine, 30 October 1948.

Synge chaired the afternoon session and gave a 'General Review of the Applicability of the Method and Summing Up'.

Correspondence *re* arrangements, 1948; programme; abstract of Synge's contribution.

**1949**

G.3, G.4

Planned visit to USA, June 1949.

Synge was planning to attend a meeting on 'Proteins and amino acids', Coldspring Harbor, New York, USA, but was denied a visa by the US government.

Correspondence *re* US visa; invitations to visit research institutes in the US, 1949.

G.3

January - April.

### Visits, conferences and travel

- G.4 May - June.
- G.5 First International Congress of Biochemistry, Cambridge, 19-25 August 1949.  
Provisional programme; invitations; etc.
- G.6, G.7 Faraday Society Discussion meeting on Adsorption Analysis, University of Reading, 22-24 September 1949.  
  
Synge was a member of the Organising Committee. He introduced the session of the meeting on 'Physicochemical Principles and their Utilisation'.
- G.6 Correspondence *re* arrangements, 1949.
- G.7 Annotated draft programmes; manuscript notes.
- G.8 Society of Chemical Industry Food Group Symposium on Amino Acids and Protein Hydrolysates, 28-30 September 1949.  
  
Synge spoke on 'Chromatographic methods in amino-acid analysis'.  
  
8pp typescript; programme; correspondence *re* arrangements, 1949.
- 1950**
- G.9, G.10 Visit to Scandinavia, July, August 1950.  
  
Synge attended the International Physiological Congress, Copenhagen, 15-18 August at which he presented a paper on 'Degradation of proteins and amino-acids in the rumen' with K.A.S. el-Shazly and went on to visit research institutes in Denmark and Norway.
- G.9 Brief correspondence *re* arrangements, 1950; typescript and manuscript notes of planned visits; 4pp typescript 'Report to the Agricultural Research Council on visit to Sweden, Norway and Denmark, August 1950'.
- G.10 Softback pocket notebook used from the front and from the back for notes on the visit, July and August 1950.



### Visits, conferences and travel

#### 1951

- G.11                      Second Interlaboratory Conference on Protein Chemistry, Torry Research Station, Aberdeen, 21-22 June 1951.

Synge chaired the second session.

Brief correspondence *re* arrangements, 1951; programme; etc.

- G.12                      Protein meeting, ?Cambridge, 17-18 July 1951.

Letter *re* confirming intention to attend, 1 May 1951.

#### 1952

- G.13                      Second International Congress of Biochemistry, Paris, France, July 1952.

Invitation; 3pp typescript report on visit.

For photograph taken at the Congress see A.451.

- G.14                      International Congress on Analytical Chemistry, Oxford, 4-9 September 1952.

Synge gave a paper on 'Electrokinetic ultrafiltration analysis of polysaccharides. A new approach to the chromatography of large molecules' jointly with D.L. Mould.

Correspondence *re* arrangements, 1952.

- G.15, G.16              Visit to Poland, 20 September-4 October 1952.

Synge's visit was supported by the Polish Cultural Institute.

During his visit the award of the 1952 Nobel prize for Chemistry to Synge and A.J.P. Martin was announced.

- G.15                      Correspondence *re* arrangements, 1952; manuscript rough draft of lecture on 'Principles of chromatography', Warsaw, 26 September 1952.

- G.16                      Correspondence arising, 1952-1954; 2pp typescript note on work of the Polish botanist M.S. Tsvet, 1953; etc.



**Visits, conferences and travel**

G.17, G.18                      CIBA Foundation Symposium on the Chemical Structure of Proteins, London, 1-3 December 1952.

Synge spoke on 'Peptides of ordinary tissues'.

G.17                              Correspondence *re* arrangements, 1952-1953; abstract of Synge's contribution.

G.18                              Programme; abstracts.

**1953**

G.19, G.20                      Institut International de Chimie Solvay Ninth Triennial Council on the Proteins, Brussels, Belgium, 9-11 April 1953.

Synge was a rapporteur on Chromatography.

G.19                              Correspondence *re* arrangements, 1952-1953.

G.20                              Itinerary; duplicated typescript papers for meeting; etc.

**1954**

G.21-G.23                      Visit to Sweden and Norway, April-May 1954.

Synge went to Sweden and Norway on a family skiing holiday in April. After the family returned to Britain Synge stayed on and may have visited Copenhagen.

G.21                              Correspondence *re* arrangements (some in Norwegian and Swedish), 1953-1954.

G.22                              Letters from family, 1954.

G.23                              Memorabilia.

**Visits, conferences and travel**

- G.24 Visit to Italy and Switzerland, October 1954.
- Synge visited colleagues and gave lectures at the universities of Bologna, Berne and Padua.
- Correspondence *re* arrangements, 1954.
- 1955**
- G.25 Visit to the Deutsche Akademie der Landwirtschaftswissenschaften zu Berlin, East Germany, 20-31 July 1955.
- Synge visited Berlin with J. Duckworth and N.W. Pirie.
- Correspondence *re* arrangements, 1954-1955.
- G.26 Visit to Shell Laboratory, Amsterdam, Netherlands, August 1955.
- Letter *re* arrangements, July 1955.
- G.27-G.34 International Wool Textile Research Conference, Australia, August, September 1955.
- This Conference ran at a number of centres during August and September. Synge gave the joint Wool Textile Research Conference/Royal Australian Chemical Institute (RACI) guest lecture on 'Principles of Chromatography' at Sydney. He went on to deliver this lecture in Adelaide, Hobart, Melbourne and Perth. He also lectured on 'Ruminant Metabolism' and 'Naturally-occurring peptides and their biological significance'
- On the journey out, Synge visited colleagues in Egypt and returned via Ceylon and India where he made a number of visits to colleagues and research institutes.
- For Synge's detailed letters home see A.323-A.325.
- G.27, G.28 Correspondence *re* general travel and Conference arrangements, 1955-1956. 2 folders.
- G.29 Correspondence *re* arrangements for RACI lectures; correspondence *re* arrangements for visits to Ceylon and India, 1955.
- G.30 Itineraries.

**Visits, conferences and travel**

G.31 Report to the Agricultural Research Council on visit, 22 November 1955.

G.32-G.34 Memorabilia. 3 folders.

**1956**

G.35, G.36 Society for Analytical Chemistry Congress on Modern Analytical Chemistry in Industry, University of St Andrew's, 24-28 June 1956.

Synge spoke on 'Chromatography'.

G.35 Correspondence *re* arrangements and arising, 1956-1957.

G.36 List of participants; programme; etc.

**1957**

G.37-G.46 International Symposium on the Origins of the Earth, Moscow, USSR, 19-24 August 1957.

Synge spoke on 'The occurrence of amino acids in nature'. During his visit to the Soviet Union Synge visited colleagues at a number of research centres. On the return journey he visited Poland.

The conference was organised by the biochemist Professor A.I. Oparin of the Academy of Sciences of the USSR. His book, *The Origin of Life on the Earth*, was being translated into English by Ann Synge and much of the correspondence refers to this.

Synge was accompanied by his family and they travelled to Moscow overland.

G.37, G.38 Correspondence *re* symposium arrangements, translation of *The Origin of Life on the Earth*, publication of Synge's contribution.

G.37 1956, 1957.

G.38 1958, 1959.



**Visits, conferences and travel**

- G.39 Provisional programme; programme; lists of participants; etc.
- G.40 15pp manuscript and 12pp typescript drafts of Synge's lecture; 1p typescript abstract.
- G.41 Printed 'Rough correction copy' and copy 'As corrected' of Synge's contribution for publication, both with manuscript corrections.
- G.42 Letters home from Synge to his parents, August - September 1957.  
The letters are principally domestic, recounting travel experiences etc.
- G.43 'A 20th-Century Look at Life', *Sunday Times*, 25 August 1957, annotated 'Based on report telephoned by RLMS'; manuscript drafts of report by Synge on the Symposium; questionnaire given to Synge 'For Saturday afternoon Moscow News' (not filled out).
- G.44, G.45 Duplicated typescript papers by others. 2 folders.
- G.46 Correspondence *re* arrangements for visit to Poland; miscellaneous notes.

**1958**

- G.47 CIBA Foundation Symposium on Amino Acids and Peptides with Antimetabolic and Cytotoxic Properties, London, 18-20 March 1958.  
Synge attended the last day of the symposium.  
Invitation; programme; abstracts.
- G.48 Visit to West Germany, June 1958.  
Brief correspondence *re* meeting with F. Turba in Munich, April, May 1958.

### Visits, conferences and travel

#### 1958-1960

G.49-G.106

Visit to New Zealand, 1958-1959.

Synge was invited to New Zealand by the New Zealand Department of Agriculture to help in investigating the cause and a possible cure for facial eczema in sheep. He arrived in New Zealand in November 1958 and worked for a year at the Ruakura Animal Research Station, Hamilton, with E.P. White. They isolated and studied the poisonous fungus *Sporidesmium bakeri* (sporidesmin) which they believed to be the cause of the eczema.

Synge's whole family travelled out to New Zealand with him. They toured widely in New Zealand and Australia and Synge delivered lectures to a number of institutions and meetings.

They returned to Britain in 1959, via the Philippines, China and the Soviet Union, travelling from Peking to Moscow, spending Christmas in Norway.

G.49-G.56	Correspondence <i>re</i> arrangements
G.57-G.63	Correspondence with relatives
G.64	Diary
G.65-G.81	Research work on facial eczema
G.82-G.91	Other engagements
G.92	Newspaper cuttings
G.93-G.99	Background material
G.100-G.106	Return journey

G.49-G.56

Correspondence *re* arrangements etc, 1957-1960

G.49

1957.

Synge was sounded out about the possibility of going to New Zealand in April 1957. He agreed in principle and a formal invitation was issued. Much of the correspondence relates to obtaining permission, terms, travel etc.

G.50

1958 January-September. Arrangements for visit to New Zealand.



**Visits, conferences and travel**

- G.51                      1958 January-May. Correspondence *re* Fellowships in Organic Chemistry (Plant), Biochemistry and Experimental Pathology in New Zealand.
- In view of his forthcoming visit to New Zealand Synge was asked to assist in examining candidates for these Fellowships who would be studying hepatogenous photosensitization diseases of ruminant animals, including facial eczema.
- G.52                      1958 October-December. Correspondence on arrival in Australia and New Zealand.
- G.53                      1959 January - April. Includes correspondence with Dorothy Hodgkin *re* analysis of crystal samples.
- G.54                      1959 May - September.
- G.55                      1959 October - December. Chiefly *re* general arrangements for travel back to Britain.
- The Synge family travelled back via China, the Soviet Union (using the Trans-Siberian railway) and Scandinavia.
- Correspondence and papers *re* arrangements in respect of individual countries visited on the return trip is at G.100-G.106.
- G.56                      1960.
- G.57-G.63                Correspondence with relatives 1958-1960
- Synge's folders of correspondence with relatives in Britain during travel and stay in New Zealand.
- G.57-G.60                'New Zealand 1958-9 [...]'. Contents of Synge's folder so inscribed divided into four for ease of reference. Synge's letters home to his parents.
- The letters are very full and include accounts of travel, people met, observations on life in New Zealand etc. The folder is also inscribed with an itinerary and has been retained (G.57).
- G.57                      1958.



**Visits, conferences and travel**

- |            |  |
|------------|--|
| G.58       | 1959 January - April.  |
| G.59       | 1959 May - September.  |
| G.60       | 1959 October - December.   |
| G.61-G.63  | 'Corresp. received in NZ'. Contents of Synge's folder so inscribed divided into three for ease of reference. Chiefly letters from Synge's parents. |
| G.61       | 1958.  |
| G.62       | 1959 January - March.  |
| G.63       | 1959 April - November, 1960.   |
| G.64       | Diary<br><br>1959 diary. Entries are rather short. They are principally brief notes on research activities.  |
| G.65-G.75  | Research work on facial eczema, 1958-1959.   |
| G.65       | 2pp typescript paper on 'Taxonomy of <i>Sporidesmium bakeri</i> ' by J.M. Dingley for 'Facial Eczema Meeting - December 16th, 1958'.               |
| G.66       | 2pp typescript notes by Synge on 'Work on "Beaker-test Substance" approx. 2 g. isolated by EPW [...]', 11 February 1959; manuscript notes.         |
| G.67, G.68 | Papers of facial eczema meeting, Ruakura, 11-12 February 1959. 2 folders.  |

**Visits, conferences and travel**

- G.69                      Papers of facial eczema meeting, Ruakura, 23 April 1959.
- Includes 3pp typescript of 'Extraction of poison work' by Synge and E. P. White.
- G.70                      'Research into the facial eczema disease of sheep. Report [...] on the completion of the first year's work, September 1958 - August 1959' by P. J. Brook.
- G.71                      'Results of the first year's work on facial eczema. Year ending September 1959. Taxonomy and strains of *Sporidesmium bakeri* Sydow' by J. M. Dingley.
- G.72, G.73                Papers of facial eczema meeting, Palmerston North, 5-6 October 1959. 2 folders.
- G.72 includes reports on work by Synge and E.P. White.
- G.74                      'Report to the Minister of Agriculture on research on facial eczema and related matters' by Synge, 20 October 1959.
- Manuscript draft; 5pp typescript.
- G.75                      Miscellaneous typescript and duplicated material *ca* 1959.
- Includes note on 'Hazards to workers handling toxin from *S. bakeri*', 14 July; 'Notes on further observations on beaker test compound' by E.P. White; 'Process for the production of a concentrate of a toxin produced by *Sporidesmium bakeri*' by White and W. Crawley; 'Relative toxicity of fungal felts and media'.
- G.76-G.81                Background material.
- Papers on facial eczema and related phenomena.
- G.76                      Duplicated typescript extracts from the 1955-56 and 1956-57 Annual Reports of the Ruakura Station on facial eczema research.

**Visits, conferences and travel**

- G.77, G.78      Typescript papers on 'Photosensitivity Diseases in New Zealand', 1956.
- G.77      'X. The Guinea Pig as an experimental animal in the investigation of facial eczema'.
- 'XI - Concentration of the facial eczema poison'.
- G.78      'XII - Concentration of the facial eczema poison'.
- 'XIII - Substances isolated from concentrates of facial eczema grass'.
- G.79      'Facial eczema poison extraction work' by E.P. White, 8 December 1957.  
                8pp typescript.
- Duplicated typescript report on 'Facial eczema investigations', n.d.
- G.80      'Report on Facial Eczema in New Zealand' by C. Rimington, ca 1958.  
                23pp typescript.
- G.81      Printed material on facial eczema and photosensitivity diseases.
- G.82-G.91      Other engagements
- Correspondence and papers *re* lectures and conferences to which Synge was invited in New Zealand and Australia.
- G.82      Annual Conference of the New Zealand Veterinary Association, January - February 1959.
- Synge gave the Opening Address.
- Invitation; programme; letter of thanks.



**Visits, conferences and travel**

- G.83                      Nineteenth Conference of the New Zealand Society of Animal Production, Ruakura, 9-11 February 1959.
- Synge spoke on 'Sources of protein for milk production'.
- Invitation; information and programme; note *re* publication of proceedings.
- 
- G.84                      Lecture to Auckland branch New Zealand Institute of Chemistry, 10 March 1959.
- Correspondence *re* arrangements.
- 
- Lecture to Waikato branch, New Zealand Institute of Chemistry, 12 March 1959.
- Synge spoke on 'Molecular sieves'.
- Notice of lecture.
- 
- Lecture to Waikato Scientific Association, 21 May 1968.
- Synge spoke on 'Present day views of the origin of life'.
- Notice of lecture; letter of thanks.
- 
- G.85                      Lecture to Wellington branch, New Zealand Institute of Chemistry, 3 June 1959.
- Synge spoke on 'Using molecular sieve effects for separating substances'.
- Correspondence *re* arrangements.
- 
- Ruakura Farmers' Conference, 16-19 June 1959.
- Synge spoke on 'Proteins and life'.
- Programme; Synge's manuscript notes; duplicated typescript copy of Synge's contribution.
- 
- G.86                      Lecture to Christchurch branch, New Zealand Institute of Chemistry, University of Canterbury, Christchurch, 29 June 1959 (rearranged from 17 August).
- Synge spoke on 'Using molecular sieve effects for separating substances'.
- Correspondence *re* arrangements.

**Visits, conferences and travel**

- G.87                      Conversazione on opening of Easterfield Building, Victoria University of Wellington, 1-3 July 1959.
- Letter; programme.
- Address to Hamilton Junior Chamber of Commerce on visit to Russia, August 1959.
- Letter of thanks only.
- Invitation to address Huntly Junior Chamber of Commerce, 25 August 1959 (declined).
- G.88, G.89              Annual Conference of New Zealand Institute of Chemistry, 25-28 August 1959.
- Synge gave the Guest Lecture on 'Naturally occurring peptides and their biological significance' and a paper on 'Electrophoresis of the copper complexes of glycine, glycyglycine and diglycyglycine' (with P. R. Carnegie).
- G.88                      Correspondence *re* arrangements, 1959; notice; programme; abstracts.
- G.89                      Manuscript drafts of abstract of 'Naturally occurring peptides'; manuscript notes for lecture on 'Naturally occurring peptides'.
- G.90                      Parkville Symposium on Proteins, Melbourne, Australia, 10-11 September 1959.
- Synge gave the Symposium Lecture on 'Naturally occurring peptides and their biological significance' and a paper on 'Electrophoretic behaviour of cupric complexes of oligopeptides' (with P.R. Carnegie).
- Correspondence *re* arrangements, 1959; symposium handbook of programme and summaries of papers.
- G.91                      Lecture to Animal Husbandry Seminar, Massey Agricultural College, Palmerston North, 7 October 1959.
- Synge spoke on 'Protein nutrition of ruminants'.
- Brief correspondence *re* arrangements, 1959.

/...



**Visits, conferences and travel**

- /... Invitation to address Central Branch of the New Zealand Veterinary Association, Palmerston North, October 1959.
- Invitation to address New Zealand Grassland Association, Gisborne, 1-4 December (declined).
- G.92 Newspaper cuttings
- re* Synge's visit to New Zealand and work undertaken.
- Includes 'Isolation of "Sporisdesmin" gives real hope of defeating facial eczema. Dr R.L.M. Synge and Dr E.P. White responsible', *New Zealand Dairy Exporter*, 10 November 1959.
- G.93-G.99 Background material
- Printed and duplicated typescript principally *re* research organisations in New Zealand and Australia.
- G.93, G.94 Ruakura Animal Research Station. 2 folders.
- G.95 New Zealand Wool Board.
- G.96 New Zealand Department of Agriculture.
- G.97, G.98 Commonwealth Scientific and Industrial Research Organisation (Australia). 2 folders.
- G.99 Papers on radioactive iodine in thyroids of grazing animals as a result of atom bomb tests in Australia.
- G.100-G.106 Return journey
- G.100 Philippines.
- Entry visas.



**Visits, conferences and travel**

- G.101, G.102      People's Republic of China.  
  
Synge visited China at the invitation of the Academia Sinica.
- G.101      Correspondence *re* travel arrangements etc, 1959-1960; manuscript notes on institutions visited.
- G.102      Travel documents.
- G.103-G.105      Soviet Union.  
  
For photograph of Synge with A.I. Oparin see A.455.
- G.103, G.104      Trans-Siberian Railway.  
  
The Synges travelled from Peking to Moscow on the Trans-Siberian railway. An account of the journey by Synge, illustrated with pictures taken by his daughter Elizabeth, appeared in the *Railway Magazine*, August 1960, pp.574-579.
- G.103      Softback notebook used as detailed diary of journey.
- G.104      Letter *re* publication; 9pp typescript draft; off-print of article from the *Railway Magazine*.
- G.105      Visas; memorabilia.
- G.106      Scandinavia.  
  
The Synges stayed in Norway for Christmas 1959.  
  
Letters *re* arrangements.

### Visits, conferences and travel

#### 1961

- G.107 Nobel Prize Winners Conference, Lindau, West Germany, 26-29 June 1961.  
  
Synge spoke on 'The use of molecular-sieve effects for separating large molecules'.  
  
Correspondence *re* arrangements, 1960-1961; abstract; programme; manuscript notes.  
  
For photographs taken during the conference see A.457.
- G.108 Fifth International Congress of Biochemistry, Moscow, USSR, 8-18 August 1961.  
  
Correspondence and papers *re* travel arrangements, 1961.
- G.109 Scottish Union of Students Conference, Aberdeen, 5-6 May 1961.  
  
Annotated invitation only.

#### 1962

- G.110 Visit to Sweden and Germany, August 1962.  
  
Synge visited colleagues in Gothenburg, Uddevalla, Stockholm and Uppsala in Sweden and Munich in Germany.  
  
Manuscript draft of report to the Agricultural Research Council; typescript report with covering letter.
- G.111 Symposium on Electrophoresis in Stabilised Media, Arthur D. Little Research Institute, Inveresk, Midlothian, 17 October 1962.  
  
Synge gave an 'Introductory review of electrophoresis in stabilised media'.  
  
Brief correspondence *re* arrangements, 1962; programme; list of participants; manuscript notes.

**Visits, conferences and travel**

G.112-G.114      UNESCO-sponsored Amplification Technique in Cell Biology, State University of New York, Buffalo, USA, 22-27 October 1962.

Syngé spoke on 'Chromatography'.

G.112              Correspondence *re* arrangements, 1962.

G.113              Provisional programme; programme; information.

G.114              Manuscript notes.

**1963**

G.115-G.119      125th Annual Meeting of the British Association for the Advancement of Science, Aberdeen, 28 August - 4 September 1963.

Syngé was Vice-President of Sections B (Chemistry) and I (Physiology and Biochemistry). He introduced the session of Section B on 'Chromatography'.

G.115              Invitations to serve as Vice-President; papers for meetings of General Committee and Sections preceding the Annual Meeting.

G.116              Programme.

G.117              Papers *re* visits to the Rowett Research Institute during the Meetings.

G.118              Programme of excursions.

G.119              Miscellaneous material.

G.120-G.122      Conference on Proteins and Polypeptides, Brook Lodge, Kalamazoo, Michigan, USA, 6-9 October 1963.

Syngé spoke on 'Stages in understanding of secondary valence interaction of peptides'.



**Visits, conferences and travel**

- G.120 Correspondence *re* arrangements, 1962-1964.
- G.121 Proposed and final programmes.
- G.122 Notebook used by Synge for notes on proceedings; manuscript notes.

**1964**

- G.123, G.124 Visit to Sweden and Norway, May 1964.
- Synge visited Sweden to attend a joint meeting of the British and Swedish biochemical societies on Recent Advances in Separation and Structural Analysis, Stockholm, 14-15 May and gave a paper. He visited Norway after the meeting.
- G.123 Correspondence *re* arrangements for the meeting, 1963; note of itinerary;
- G.124 Photographs from 'Norway May 1964'.
- G.125 Biochemical Society Colloquium on Nucleo-peptides, Brewing Industry Research Foundation, Redhill, Surrey, 5 June 1964.
- Synge contributed a paper.
- Correspondence *re* arrangements, 1963-1964.
- G.126 Nobel Prize Winners Meeting on Chemistry, Lindau, West Germany, 22-26 June 1964.
- Correspondence *re* arrangements, 1963-1964.
- G.127 Visit to Poland and Sweden, November-December 1964.
- Synge was invited to Poland as a guest of the Polish Academy of Sciences.
- Brief correspondence, 1964; manuscript note of expenditure.

**Visits, conferences and travel**

- G.128 Nobel Prize ceremonies, Stockholm, 10 December 1964.  
Synge travelled to Stockholm after his visit to Poland (G.127).  
Correspondence *re* arrangements, 1964; programme.

**1965**

- G.129-G.132 Visit to India, 19 April - 8 May 1965.  
Synge visited India as a guest of the Indian Statistical Institute (ISI), Calcutta, for discussions on various aspects of tropical agriculture. He also lectured at the University of Delhi on 'New methods for extracting and fractionating constituents of leaves' and visited colleagues in Darjeeling and at the Indian Institute of Science, Bombay.  
He returned to India the following year for a longer visit (see G.135-G.159).
- G.129 Invitation; correspondence *re* arrangements, 1965; itinerary.
- G.130 Correspondence *re* visits in India and arising, 1965.
- G.131 Family correspondence, 1965.
- G.132 Manuscript notes; memorabilia
- G.133 Symposium on Recent Developments in Chromatography', Liverpool, 13-14 May 1965.  
Synge spoke on 'Molecular sieve effects in chromatographic and other separations'.  
Correspondence *re* arrangements, 1964-1965; programme; list of participants; manuscript notes.
- G.134 Evening Party in honour of Sir Lawrence Bragg, Royal Institution, London, 15 October 1965.  
Correspondence *re* arrangements, 1965.

### Visits, conferences and travel

#### 1966

- G.134A      Altrex Automatic Laboratory Techniques Exhibition, London, 1-3 February 1966.
- Synge chaired a lecture meeting addressed by K. Hannig on 'Recent advances in continuous electrophoresis in a free buffer film' on 3 February.
- Correspondence *re* arrangements, 1965-1966; programme; manuscript note for Synge's introductory remarks.
- G.135-G.159      Visit to India, July - September 1966.
- In 1965 Synge had visited India as a guest of the Indian Statistical Institute (ISI). See G.130-G.132. He returned to the ISI in July-September 1966, to work on chemical problems of rice cultivation. He also advised on the structure of the ISI for a government review of the Institute. While in India he visited colleagues at a number of other research centres.
- G.135      Correspondence *re* arrangements for visit, 1965-1966.
- It was proposed that Synge should return to the ISI, Calcutta in 1966 as the next in a series of repeated visits over a number of years to help with both research and teaching there.
- G.136      Correspondence and papers *re* appointments at ISI.
- Synge was on an interview panel to select an Organic Chemist/Biochemist for the ISI. He also advised on other appointments.
- G.137-G.140      Correspondence and papers *re* visits to other research institutions.
- G.137      Itineraries; travel and accommodation arrangements.
- G.138      Rice Research Station, Cuttack, 17 or 18 August.
- Central Food Technological Research Institute, Mysore, 19 or 20 August.



**Visits, conferences and travel**

- G.139                      Agricultural College and Research Institute, Coimbatore, 22-24 August.
- 'S.Q.C. Unit', ISI, Kerala, 24 August.
- G.140                      Centre of Advanced Study in the Chemistry of Natural Proteins, University of Delhi, 30 August - 2 September.
- At Delhi Synge lectured to the Royal Institute of Chemistry (North India Section) on 'Purification of leaf protein: its interactions with aromatic leaf constituents' on 31 August and led a seminar on 'Plant Polyphenolics' on 1 September.
- G.141                      Other invitations.
- G.142                      Miscellaneous correspondence in India; letters to his mother. 1966.
- G.143-G.150              Government Review Committee on the Indian Statistical Institute
- The Committee, chaired by Sri Humayun Kabir MP, had been established in February 1966 to evaluate the work done by the ISI and advise on particular aspects of its activities. As a distinguished foreign visitor Synge was asked in September to give his comments on the ISI. The Committee submitted its report in December 1966.
- G.143                      Correspondence *re* review and Synge's comments.
- G.144                      Typescript reports for the Review Committee by P.C. Mahalanobis, Calcutta: 'Research Units in Natural Sciences', 3pp, 10 September; Research units in non-statistical subjects', 12pp, 10 September; 'Research and Training School. Research units in non-statistical subjects', earlier draft of preceding, n.d.
- G.145                      Copy of *Report of the Indian Statistical Institute Review Committee* (New Delhi, 1966).
- G.146                      Brief correspondence *re* Deskmukh Committee.
- This Committee was established in January 1967, to advise the ISI and oversee the implementation of the Review Committee's recommendations.

**Visits, conferences and travel**

- G.147                      Provisional copy of Deskmukh report *Indian Statistical Institute. Review and Reappraisal* (Calcutta, 1967).
- G.148-G.150              Printed background material *re* the ISI. 3 folders.
- G.151-G.155              Correspondence arising from Synge's visit to India, 1966-1970.
- G.151-G.153              S. Matai.  
  
Matai applied for a Colombo Plan Fellowship to study with Synge at the Food Research Institute, Norwich. He was notified of the award in December 1967 but delays thereafter meant he was unable to take up the post until October 1968. He returned to India in August 1970.  
  
See E.48 for notebook used by Matai, see J.190 for further correspondence with Matai.
- G.151                      1966-1967. *Re* Matai's application.
- G.152                      1968.
- G.153                      1969-1970.
- G.154                      J. Uden.  
  
Correspondence *re* Uden joining ISI under Voluntary Service Overseas scheme, 1967.
- G.155                      Miscellaneous correspondence, 1966-1968.
- G.156-G.159              Miscellaneous printed material on Indian science and research centres. 4 folders.



**Visits, conferences and travel**

**1967**

G.160, G.161

Visit to Australia, 28 April - 8 July 1967.

Synge visited Australia in connection with his Royal Society memoir of H.R. Marston (see J.182-J.185). He attended the Australian Biochemical Society Annual Meeting in Sydney, 22-25 May and visited colleagues in Australia. Synge also visited colleagues in Ceylon, New Zealand and India.

Correspondence *re* arrangements, 1966-1967. 2 folders.

**1968**

G.162

Visit to Munich, 2-6 September 1968.

1p typescript report to the Agricultural Research Council on visit, 21 November 1968.

**1969**

G.163-G.178

Visit to Cuba, 5-21 May 1969.

Synge visited Cuba to attend the First Annual Congress of the Institute of Animal Science, Havana, 10-13 May. Synge gave a lecture on 'Food proteins from plants and microorganisms' and gave a closing speech at the end of the meeting. He stayed on after the congress to learn about agricultural conditions in Cuba at the Institute of Animal Science. The Director of the Institute, T. R. Preston, was a former member of staff of the Rowett Research Institute.

G.163

Correspondence *re* arrangements, 1969.

G.164

Conference programme in Spanish; English translation.

G.165

Summaries of papers; programme of activities.

G.166

9pp typescript of Synge's contribution with manuscript corrections; 11pp typescript 'edited version' sent to T.R. Preston 8 September 1969.



**Visits, conferences and travel**

- G.167                      Manuscript draft of Synge's closing speech.
- G.168-G.176              Press coverage of the Congress.
- G.168                      UK coverage.  
  
Includes cutting from *Farmer's Weekly* 23 May 1969 reporting on Castro's criticisms of T.R. Preston.
- G.169                      Cuttings from Cuban newspapers.
- G.170-G.173              Black and white press photographs of the Congress, most featuring Synge and many featuring Castro.
- G.170                      Conference proceedings.
- G.171                      Synge, Castro and others visiting the ?Institute of Animal Science.
- G.172                      Other photographs featuring Synge.
- G.173                      Miscellaneous photographs.
- G.174-G.176              Issues of Cuban newspapers with coverage of the Congress or agriculture in Cuba in general, May 1969.
- G.174                      *Gramma*, 7, 10, 12-16, 21 May. In Spanish.
- G.175                      *Gramma Weekly*, 11, 18 May. In English.
- G.176                      *Juventud Rebelde*, 12-14 May. In Spanish

**Visits, conferences and travel**

- G.177 Background information on Cuban agricultural research etc.
- G.178 Duplicated typescript minutes of Committee meeting of the Britain-Cuba Association, 12 May 1969.
- G.179 Britain-Cuba Association bulletins October and November 1969.  
  
Include information *re* symposium on 'The New Man in Cuba', 22 November 1969, at which Synge spoke on 'Some problems and possibilities of food production in Cuba'.  
  
See also A.379.

**1970**

- G.180 Visit to India, *ca* January-February 1970.  
  
Synge returned to the Indian Statistical Institute. He attended the Convocation of the Institute at which he gave the Address on 'Poisons in plants. Some biological and human implications'.  
  
Correspondence *re* arrangements, 1969-1970; off-print of Synge's lecture.
- G.181 Fourth Gregynog Natural Products Symposium on Peptides and Related Compounds, Gregynog, Montgomeryshire, Wales, 29 May-1 June 1970.  
  
Invitation, 3 April 1970; programme; group photograph of participants.

**1971**

- G.182-G.186 John Millington Synge Centenary, Ireland, 27 April - 1 May 1971.  
  
Synge was invited to Ireland by the Synge Centenary Committee
- G.182 Invitation; brief correspondence *re* arrangements, 1970-1971; programmes; letter to Mrs Synge (?Synge's mother) from S. LeBrocqy *re* family history and Centenary, 1 July 1971.

**Visits, conferences and travel**

- G.183                      Invitations to social and cultural events in Dublin found in envelope inscribed 'Ref[use]d [...] 14th April'.
- Press photograph of audience at unidentified event during Synge Centenary, inscribed 'Kate' on verso, possibly identifying one of those in the front row as Synge's mother.
- G.184-G.186              Miscellaneous memorabilia from Synge Centenary events. 3 folders.
- G.187, G.188              Tasting and Exhibition of Unorthodox Foods, Portmeirion, Wales, 19-21 May 1971.
- This meeting was organised by Mrs A. Williams-Ellis and intended to introduce to a wider public the idea of using unusual sources of protein to lessen the world's food problems. It was chaired by N.W. Pirie and saw scientists and chefs each preparing dishes using new sources of protein. Synge prepared a 'demonstration of Chinese confections of vegetable origin and of high protein content'.
- G.187                      Correspondence *re* arrangements, 1970-1971.
- G.188                      List of participants; draft notice; duplicated typescript information on 'Protein Content' of unorthodox foods; report on the meeting from *Nature*; etc.
- G.189-G.191              Agricultural Development Association (ADA) Conference on New Protein Foods, University of Reading, 13-15 July 1971.
- G.189                      Invitation and programme; list of participants; information on ADA.
- G.190                      Handbook of abstracts, annotated by Synge.
- G.191                      Duplicated typescript material from participants.



### Visits, conferences and travel

#### 1974

- G.192                      Phytochemical Society meeting, Swansea, September 1974.
- Synge spoke on 'Reactions of plant proteins with oxidation products of polyphenols'.
- Brief correspondence *re* arrangements, 1974.
- G.193                      Meeting in Lindau, West Germany, summer 1974.
- Correspondence arising, 1974. Includes references to 1975 Congress in Wädenswil (see G.195).

#### 1975

- G.194                      Potato Marketing Board Symposium on Utilisation of Waste and Surplus Potatoes, 1975.
- Correspondence *re* arrangements, 1975; copy of the summing up by N. W. Simmonds.
- G.195                      Congress on Nutritional Value of Plant Food, Wädenswil, Switzerland, 7-9 October 1975.
- Synge spoke on 'Damage to nutritional value of plant proteins by chemical reactions during storage and processing'.
- Correspondence, chiefly *re* Synge's paper, 1974-1975. Includes references to 1974 Lindau meeting (see G.193).
- G.196                      Fifth International Wool Textile Research Conference, Aachen, West Germany, 1-11 September 1975.
- Synge chaired a session on the chemical structure of wool proteins.
- Correspondence *re* arrangements, 1974-1975.
- G.197-G.201              75th Anniversary of the Nobel Foundation, Stockholm, Sweden, December 1975.
- Synge attended events of the Anniversary and also visited colleagues at the Institute of Biochemistry at the University of Uppsala.

**Visits, conferences and travel**

- G.197 Correspondence *re* arrangements, 1975.
- G.198 Social and scientific programmes; list of participants.
- G.199 Papers from 1975 Nobel prize ceremony.
- G.200 Invitations, programmes, menus, table-plans etc for various events during Anniversary.
- G.201 'The 1975 Stockholm Declaration of Twelve Nobel Laureates on Disarmament'. Synge was a signatory.

**1977**

- G.202, G.203 Visit to Canada, January 1977.  
  
Synge visited colleagues at the University of Saskatchewan, University of Alberta (lecture on 'Reactions of polyphenols and quinonoids with proteins: some chemical and nutritional aspects'), McGill University and other research centres.
- G.202 Correspondence *re* arrangements, 1976-1977.
- G.203 Manuscript notes, some identifiable as for lecture at University of Alberta.
- G.204, G.205 25th Anniversary of the Deutsche Wollforschungsinstitut, Aachen, West Germany, 1-2 April 1977.  
  
Synge gave the Jubilee Lecture on '75 years of the Fischer-Hofmeister theory of protein structure'.
- G.204 Correspondence *re* arrangements, 1976-1977.
- G.205 Programme; list of participants; press release.



**Visits, conferences and travel**

- G.206, G.207      Nobel Prize Winners Meeting on Chemistry, Lindau, West Germany, 27 June - 1 July 1977.
- Synge spoke on ' "Wasteful" research in pure and applied science', a lecture first given by him at the J.D. Bernal Peace Library, 25 May 1977.
- After the lecture in Lindau, both *Bild der Wissenschaft* and *Interdisciplinary Science Reviews* expressed interest in reproducing the lecture. Synge had assigned copyright to the Bernal Library and fairly extensive negotiations followed.
- For photographs taken during the meeting see A.467.
- G.206      Invitation and programme; list of participants; abstracts (in German) of contributions of Synge and Sir Derek Barton.
- G.207      Correspondence *re* publication of lecture, 1977-1978.
- G.208      Joint European and North American phytochemical societies' Symposium on the Biochemistry of Plant Phenolics, Ghent, Belgium, August, 1977.
- Newspaper cutting only (includes picture featuring Synge).
- G.209      Visit to Australia, October 1977.
- Synge lectured on 'Polyphenol-protein reactions and their significance for agricultural practices' at the University of Adelaide.
- Brief correspondence *re* arrangements at Adelaide, 1977.
- 1978**
- G.210      Groupe Polyphénols annual assembly, Nancy, France, 18-20 May 1978.
- Synge lectured on 'Polyphenol-protein reactions and their significance for agricultural practices'.
- Correspondence *re* arrangements, 1977-1979; manuscript notes.



**Visits, conferences and travel**

- G.211                      Symposium on 'Of Timeliness and Promise' - Sterile and Fruitful Approaches in the Development of Biochemistry, Cambridge, 4 December 1978.
- Synge spoke on 'Proteins: some physio-chemical, organic-chemical and nutritional aspects'.
- Rough manuscript draft; correspondence *re* arrangements, 1978-1979; programme; photographs of participants; photocopy of article *re* Symposium in *TIBS* March 1979.

- G.212                      Visit to Nigeria, 1978.
- Brief correspondence *re* possible Visiting Professorship at University of Nairobi, Kenya only, 1977-1978.
- Synge stated that he could not go on to Kenya after his visit to Nigeria.

**1980**

- G.213                      Meeting on Agropine Aggregation, Food Research Institute, Norwich, 12 May 1980.
- Agenda; manuscript note.

**1983**

- G.214                      Meeting of British Nobel Laureates, Swedish Embassy, London, 30 November 1983.
- Invitation (accepted).

**1986**

- G.215-G.222              Joint Conference of the Chemical Information Group of the Royal Society of Chemistry, the Institute of Information Scientists and the Institute of Biology on Multidisciplinary Approaches to Searching for Information about Scientists, Oxford, 25-26 March 1986.
- Synge was chairman of the Organising Committee and convenor of the conference. He also gave a paper on '25 years of *Science Citation Index* - some experiences', subsequently published.
- See also F.62, H.97.

### Visits, conferences and travel

- G.215, G.216 'Oxford Conf. 25-6/3/86 Documents worth keeping'. Contents of Synge's envelope so inscribed divided into two for ease of reference.
- G.215 Minutes of meeting of organising committee, 28 March 1985; brief correspondence *re* arrangements and arising, 1985-1987.
- G.216 Revised programme; conference information; manuscript list of possible speakers.
- G.217-G.222 'Chemical Information & Oxford paper'. Contents of Synge's envelope so inscribed divided into six for ease of reference: material *re* '25 years of *Science Citation Index* - some experiences'.
- G.217 12pp photocopied manuscript draft + figures.
- G.218 Transparencies.
- G.219 Brief correspondence with P. Rhodes, Royal Society of Chemistry, *re* papers not located in *Chemical Abstracts*; manuscript notes on 'SCI-derived documents still requiring examination 28/11/85'; miscellaneous manuscript notes.
- G.220-G.222 Background material: print-outs. 3 folders.
- 1987**
- G.223, G.224 Conference on Chemical Structures: the International Language of Chemistry, Noordwijkerhout, Netherlands, 31 May - 4 June 1987.
- G.223 Programme and abstracts; corrections to list of participants; invoice.
- G.224 Printed information collected by Synge at the conference.



### Visits, conferences and travel

#### 1988

- G.225 Eco-Danube Conference, held on board ship 'Rousse' (travelling between Bulgaria and West Germany), 27 October - 8 November 1988.

Synge spoke on 'Interplay of chemical science with social pressures'.

Invitation, 4 February 1988; final document of the Conference; correspondence with C. Birch, editor of *Scientific World*, re publication of Synge's contribution, 1989; 7pp photocopied manuscript rough draft sent to Birch by Synge.

#### 1990

- G.226-G.229 New Edinburgh Conversations on The Politics and Economics of Environmental Survival, Edinburgh, 2-4 April 1990.

The New Edinburgh Conversations were established as annual meetings between Scottish and Soviet specialists. Those for 1990 concerned environmental issues rather than defence and disarmament as in previous years. Synge attended at the invitation of the Edinburgh Science Festival.

- G.226 Correspondence re arrangements, 1990; programme; press-release.

- G.227 Synge's manuscript notes of proceedings and for his own contribution; black and white photograph of participants.

- G.228 Papers by D. Gee, D. Smith and K. Y. Kondratyev.

- G.229 Final Communiqué.

6pp and 5pp (annotated) typescript drafts; published version.

#### 1991

- G.230 Nobel Jubilee, Stockholm, Sweden, December 1991.

Brief correspondence re arrangements, 1991; Guide to Jubilee events; miscellaneous material.

For photographs taken at the Jubilee see A.470.



## Visits, conferences and travel

### Miscellaneous and undated

- G.231                      *Naturwissenschaftliche Rundschau* 6 (1980). Article on '30. Nobelpreisträgertagung in Lindau' with photographs of Synge.

List of participants for meeting on Chemical Information - a catalyst for research, featuring Synge.

### G.232-G.249

#### Invitations

1947-1992

- G.232                      Society of Chemical Industry Food Group meeting, London, 20 March 1946.  
  
17th International Physiological Congress, Oxford, 22-25 July 1947.  
  
Meeting on the Comparative Merits of Animal and Vegetable Foods in Nutrition', London School of Hygiene, 20 January 1950.  
  
European Association for Animal Production International Meeting, Ghent, Belgium, 12-14 October 1950.
- G.233                      Buckland House Conference on Ion Exchange, Faringdon, Berkshire, 24-25 September 1951.  
  
Symposium of carbohydrate chemists, University College Galway, Ireland, 19 April 1952.  
  
Society of Chemical Industry meeting on the Quality of Cereals and their Industrial Uses', Edinburgh, 8-10 May 1952.
- G.234                      6th International Congress of Microbiology, Rome, Italy, 6-12 September 1953.  
  
Society for Experimental Biology Symposium on Fibrous Proteins and their Biological Functions, summer 1954.  
  
Midland Symposium for Analytical Chemistry Symposium on Analytical Chemistry, ?Birmingham, 25 August - 1 September 1954.

**Visits, conferences and travel**

- G.235                      Visit to Purdue University, USA, 1954-1955.
- Meeting of Deutsche Akademie der Landwirtschaftswissenschaften zu Berlin, East Germany, 17-19 October 1955.
- Society for Experimental Biology Conference, Edinburgh, 11-12 April 1956.
- G.236                      7th International Grassland Conference, New Zealand, November 1956.
- G.237                      British Gelatine and Glue Research Association Conference on Recent Advances in Gelatin and Glue Research, Cambridge, 1-5 July 1957.
- 14th Annual Nobel Dinner, New York, USA, 11th January 1958 (Synge wished to attend but was unable to obtain an entry visa for the USA).
- Study Group on Quantitative Paper Chromatography of Steroids, London, 1 July 1958.
- G.238                      Meeting on Fortieth Anniversary of the Institut für Phytopathologie Ascherleben, Berlin, Germany, 23-24 June 1960.
- Institute of Biology Conversazione, London, 30 June 1960.
- Eighth International Grassland Congress, Reading, ?July 1960.
- G.239                      Meeting on 10th Anniversary of Mathematisch-Naturwissenschaftlichen Fakultät, Universität Greifswald, Germany, 5-7 October 1961.
- Colloquium on Protides of Biological Fluids, Bruges, Belgium, 4-6 May 1962.
- G.240                      Symposium on Chemistry in Medicine, Brookhaven National Laboratory, New York, USA, 28-29 March 1963.
- International Symposium on the Physiology, Ecology and Biochemistry of Germination, Greifswald, Germany, 8-14 September 1963.
- Correspondence, August-September 1963, *re* visas for entry into USA.
- G.241                      Symposium on Separations in Solid Media, Edinburgh, 8 October 1964.
- Nutrition Society Symposium on Effect of Soils, Fertilisers and Environment on the Yield and Nutrient Content of Plants, Reading, 17 July 1965.



**Visits, conferences and travel**

- G.242                      15th Colloquium on Protides of the Biological Fluids, Bruges, Belgium, 3-7 May 1967.
- Nobel Prize Winners Meeting on Chemistry, Lindau, West Germany, 3-7 July 1967.
- Symposium on 'The Use of Isotopes in Studies of Nitrogen Metabolism in the Soil-Plant-Animal System', Sofia, Bulgaria, 28 August - 1 September 1967.
- British National Export Council Israel Committee/Scientific Instrument Manufacturers' Association Symposium, Technion, Haifa, Israel, 5-12 November 1967.
- 
- G.243                      500th Meeting of the Biochemical Society, University College London, 17 December 1969.
- Seminar in Animal and Plant Science, Institute of Animal Science, Havana, Cuba, 8-14 December 1970.
- 
- G.244                      Visiting Professorship, University of Nairobi, Kenya, 1974-1975.
- 15th International Congress of the History of Science, Edinburgh, 10-19 August 1977.
- 
- G.245                      500th Anniversary of the University of Uppsala, Sweden, 28-30 September 1977.
- 
- G.246                      Indian Statistical Institute Golden Jubilee, November 1981.
- Nobel Prize Winners Meeting on Chemistry, Lindau, West Germany, 27 June - 1 July 1983.
- 
- G.247                      International Union for Pure and Applied Chemistry Symposium on Physical Chemistry of Colloids and Macromolecules, Uppsala, Sweden, 22-24 August 1984.
- International Foundation of Scientists for Peace and Liberty of Conscience World Forum on Science and Society, Amsterdam, Netherlands, 29 May - 3 June 1985.
- 2nd International Conference of Leaf Protein Research, Nagoya and Kyoto, Japan, 1985.



**Visits, conferences and travel**

- G.248                      Nobel Prize Winners Meeting on Chemistry, Lindau, West Germany, 30 June - 4 July 1986.
- Symposia on Molecular and Cellular Biology, University of California Los Angeles, USA, January - May 1987.
- 
- G.249                      2nd Leningrad Nobel Prize Winners Symposium, USSR, 18-22 October 1991.
- 5th World Congress Alternatives and Environment, Prague, Czechoslovakia and Vienna, Austria, 1991.
- 21st meeting of the Federation of European Biochemical Societies, Trinity College Dublin, Ireland, 9-14 August 1992.

**APPENDIX OF ADDITIONAL PAPERS AND CORRESPONDENCE OF  
RICHARD LAURENCE MILLINGTON SYNGE FRS (1914-1994), BIOCHEMIST**

This additional material was received from Dr Charlotte Synge, daughter of R.L.M. Synge, in November 2004. Placed in Trinity College Cambridge Library February 2005.

The material is numbered to follow on consecutively from the sections of the main catalogue NCUACS 73/2/98. There is additional material for sections A, Biographical; E, Research; F, Publications, lectures and broadcasts; G, Visits, conferences and travel; and J, Correspondence. There is a short index of correspondents.

A.490	Large mounted group photograph of staff at ?Rowett Research Institute, Aberdeen  With key (detached from photograph). Synge is in the centre.	N.d.
E.102	Incomplete spiral bound notebook used for miscellaneous jottings	ca 1980
F.198-F.201	<i>Mikhail Semenovich Tsvet 1872-1919</i> by E.M. Senchenkova  See F.82-F.90.	1970s
F.198	Copy of Russian paperback edition, inscribed by the author.	1973
F.199	Photocopy typescript translations of passages.	1970s
F.200	Manuscript pages of translation.	1970s
F.201	<i>The Birth of the Idea and Method of Adsorption Chromatography</i> by E.M. Senchenkova  Copy of Russian paperback edition.  This book credits Tsvet as the founder of chromatography.	1991

F.202	<p>'Polyphenol-protein reactions and their significance for agricultural practices', lecture at conference, Nancy, France, 17-19 May 1978</p> <p>Photocopy of corrected typescript.</p> <p>As published.</p>	1978
F.203	<p>'Conversion of heterocyclic to aliphatic structures. Scope and limitations of programs'</p> <p>Manuscript draft.</p>	1982
F.204	<p>Letter from <i>Trends in Biochemical Sciences</i> asking Synge to write an appreciation of Stanford Moore, with Synge's reply drafted on verso</p> <p>With press-release announcing the death of Moore, August 1982.</p>	1982
F.205	<p>' "Wasteful" research in pure and applied science'</p> <p>Manuscript draft of introduction to work of M.S. Tsvet.</p>	N.d.
G.250	<p>Chemical Notation Association Seminar on The Future of Chemical Documentation, Exeter, 6-10 September, 1982</p> <p>Notice, correspondence, abstracts of Synge's suggested contribution and of his paper given, manuscript notes including draft FORTRAN program.</p> <p>Synge's suggested contribution on 'Aliphaticization of heterocycles for substructure searching' was not thought suitable. Instead he spoke on 'The chemist's work and the literature of chemistry'.</p>	1981-1982
G.251-G.253	<p>Visit to Haldane Research Centre, Nagercoil, India, December 1987</p> <p>Synge was an Adviser to the Haldane Research Centre, see H.72.</p> <p>In 1987 he opened the Library and Guest House at the Centre.</p>	1987



G.251	Album of photographs of R.L.M. and Ann Synge at the Haldane Research Centre  Identified on verso.	
G.252	Letter from T.A. Davis, Director, Haldane Research Centre arising from visit	
G.253	'Inauguration of Library and Guest House Buildings of JBS Haldane Research Centre at Nagercoil' by T.A. Davis  Printed copy of speech.	
J.444	Correspondence to Synge from Rose Scott-Moncrieff  Two letters, 1981 and 1982, enclosing Scott-Moncrieff's correspondence with others on history of biochemical genetics.	1981-1982
J.445	Brief correspondence, March  Letter from P. Anstey <i>re</i> FORTRAN problem; draft of letter to 'Prof M.' on Ibsen.	1982

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