

THE ROYAL COMMISSION ON HISTORICAL MANUSCRIPTS

Report on correspondence and papers of

JOHN WILLIAM SUTTON PRINGLE

(1912-1982)

zoologist

deposited in the

Bodleian Library, Oxford

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(CSAC 117/8/86)

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Catalogue of the papers and correspondence of

JOHN WILLIAM SUTTON PRINGLE FRS

(1912 - 1982)

Compiled by: Jeannine Alton

Peter Harper

Margaret Erskine

Deposited in the Bodleian Library, Oxford

1986

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GENERAL INTRODUCTION

PROVENANCE

Most of the material was received from the Department of Zoology, Oxford, by courtesy of Professor Sir Richard Southwood and Mr. K. Marsland.

The obituary by Nigel Pringle (nephew) from Sailplane and Gliding included in A.1 was received from Mrs. Beatrice Pringle. Published papers relating to Pringle's work included at C.43 were made available by Dr. R.H. Abbott. The correspondence on research specimens at C.45-C.47 was given by Dr. Belinda Bullard.

The material relating to the Oxford Department of Zoology referred to in the Memoir of Pringle by V.B. Wigglesworth (Biographical Memoirs of Fellows of the Royal Society, 29, 1983, 532) as 'deposited in the University Archives' was withdrawn and is now incorporated in the present collection at C.51-C.184.

OUTLINE OF THE CAREER OF J.W.S. PRINGLE

Pringle was a scholar of Winchester and later of King's College, Cambridge, where he took first-class degrees in both parts of the Natural Sciences Tripos. His research career began in Cambridge in 1934 and he was University Demonstrator in Zoology 1937-38 and Fellow of King's 1938-44. After war service on airborne radar with the Telecommunications Research Establishment (T.R.E.) and later with the Ministry of Transport, Pringle returned to Cambridge as lecturer in the Department of Zoology and Fellow of Peterhouse. Much of his most important research, on the physiology of cicada song, proprioception in insects, and insect flight muscle was conducted in the Cambridge years to 1961. To this period also belong Pringle's marriage (1946), his many college duties at Peterhouse, his election to the Fellowship of the Royal Society (1954) and his appointment as Reader in Experimental Cytology (1959).

In June 1961 Pringle accepted the Linacre Chair of Zoology which had been offered to him in December 1960, and moved to Oxford where he remained for the rest of his life. His period at Oxford, though not always smooth, was marked by notable

achievements such as the building of a large new laboratory housing the Departments of Zoology and Experimental Psychology and the subdepartment of Molecular Biophysics, a major contribution to the founding in 1970 of the new Honour School of Human Sciences and the establishment of his own ARC unit for research in muscle biophysics and insect physiology. From the late 1960s he also developed an active interest in the problems of science in developing countries, and he was especially involved with various research institutes and universities in East Africa.

Pringle retired as Linacre Professor in 1979 and died in 1982.

A fuller account of Pringle's career and research can be found in the Memoir by V.B. Wigglesworth in the Royal Society series, 1983, which has been drawn upon in compiling some of the entries and is referred to in the form (Memoir, p...).

DESCRIPTION OF THE COLLECTION

The material is presented in the order shown in the List of Contents. Additional explanatory notes accompany many of the Sections, sub-sections and individual entries in the body of the catalogue. The following paragraphs aim only to draw attention to matters of particular substance or interest.

The surviving collection is almost exclusively concerned with Pringle's scientific career, and includes almost no documentation for his unusually wide range of outside interests. His university teaching and administration at Cambridge and Oxford are well documented in Sections B and C respectively. Section C is particularly rich in its full account of the protracted struggles over the siting and design of the new Zoology department; many of the files were prepared by Pringle himself and reflect his own awareness of the historical interest of the documents. There is also material here relating to the ARC unit of which Pringle was Honorary Director and which was the focus of his principal research interest on insect flight muscle, including research notes, ideas for seminars, and the 'internal memoranda' circulated by the team. Regrettably, there is no surviving material here for Pringle's active contribution to the establishment of the multi-disciplinary Honour School of Human Sciences at Oxford.

The development of Pringle's research is well illustrated by the notebooks, notes and correspondence assembled in Section D, covering the long span 1934-82 (as well as an even earlier school exercise-book of 1928). They include his early 1934 expedition to the Atlas Mountains, his important 1953 expedition to Ceylon to study cicada song, drafts for lectures and publications, notes of discussions with colleagues, talks at conferences and the like.

Section E brings together drafts and scripts for lectures and publications covering a period of over thirty years, 1949-82, and also including a talk given as an undergraduate to the Cambridge University Natural Science Club.

Section F, *Science in the Third World*, is of interest for its full record of Pringle's involvement with the International Centre for Insect Physiology and Ecology (ICIPE) at Nairobi, especially as a member of the Governing Board from 1972 (Chairman 1973) to 1978, and a director of research on a major project from 1973. Here too Pringle's sense of history prompted him to assemble his own file of 'early history' as well as a full general record.

Sections G and H are relatively slight and probably do not reflect Pringle's participation in learned societies or symposia. Similarly, Section J, *Correspondence*, is chiefly of interest for its documentation of the careers of many of the members of the ARC unit at Oxford.

Drafts for published work found in all Sections of the collection have been linked wherever possible to the Bibliography compiled for the Royal Society Memoir and appear in the form (Bibliog. ...). A copy of the Bibliography is reproduced with permission on pp.119-121.

Items at E.101, E.110, E.111 represent material published or intended for publication which is not listed in the Bibliography.

ACKNOWLEDGEMENTS

We are grateful to all those who helped to assemble material for the collection, and especially to Dr. Belinda Bullard for advice, information and encouragement over a period of several years.

We are grateful to Dr. C.E. Phelps and Dr. R.H. Abbott for help in identifying some of the material.

JBA

PH

ME

Oxford 1986

SECTION A BIOGRAPHICAL AND PERSONAL A.1 - A.17

BIOGRAPHICAL AND BIBLIOGRAPHICAL

A.1 Obituaries: The Times, Sailplane & Gliding.

Memoir, by V.B. Wigglesworth, Biographical Memoirs of Fellows of the Royal Society, 29, 1983.

A.2 Miscellaneous lists of publications and lectures.

A.3 Lectures by Pringle of special interest to him. Some of these are additional copies of material included in the manuscript collection or the published works, brought together for ease of consultation.

'First-year biology courses at the university'. Lecture to Biology Section of the Association of Technical Colleges and Departments of Education, September 1964. Another copy is at E.17.

'Can there be a scientific study of man and society?' Lecture at Oxford, October 1964, describing the initial discussions for the study of 'Human Sciences' and Pringle's interest in this interdisciplinary course, which was officially initiated in October 1970 (Memoir, 533-534, 547).

'Effects of World War II on the development of knowledge in the biological sciences' (Bibliog. 1975c). Offprint, with an attached note by Pringle beginning 'The attached article is, I suggest, of more than historical interest because the problem of world food supplies presents us with a crisis as great as that of the Second World War'.

'Oxford Zoology 1961-79'.

This is the 'Master Copy' of Pringle's valedictory lecture, May 1979. Another copy is at C.183.

Included here is a signed copy of P.B. Medawar's lecture on 'Oxford Zoology' (Biology, 1944).

A.4 Brief correspondence on career.

Election as corresponding member, American Society of Zoologists, 1965.

Possible research post in Ghana (declined), 1981.

Biographical and personal

WAR SERVICE

Pringle served with the Telecommunications Research Establishment (TRE) at various locations, working on airborne radar. Two of the devices developed by his group, 'Eureka' and 'Rebecca' were used in North Africa and the Normandy landings (Memoir, pp.527-528).

- A.5 S.O. Notebook. Few pages used. At rear of book, alphabetical index (includes Eureka, Rebecca and other devices).
- A.6 'The work of T.R.E. in the invasion of Europe'.
31pp. duplicated typescript signed JWSP, +1p. Bibliography and 2pp. 'Catalogue of equipments', with a ms. note on cover 'Compiled and largely written by JWSP'. n.d. but shortly after Normandy landings.
2 copies.
- A.7-A.13 Later reports, on information theory.
- A.7 'Symposium on Information Theory' held at Royal Society September 1950 and published by Ministry of Supply.
- A.8-A.12 TRE (later RRE) reports by A.M. Uttley, 1952, 1954, 1955.
- A.13 Burden Neurological Institute report by W. Ross Ashby, 1960.

OTHER INTERESTS

Pringle had a remarkably wide range of outside interests and talents and it is unfortunate that almost no documentation of them survives.

- A.14 Gliding: 'Thermal Dice'
Programs and charts for simulated 'cross-country flying' with variables for wind-speed, thermals, cloudbase and other factors, 1977, 1979 (Memoir, pp.545-547).

Biographical and personal

A.15

Design

Programs and data devised by Pringle to generate patterns similar to mosaics; 8 patterns 'for Merida design'.

A.16

Poetry

'The Temptation'. There is another of Pringle's poems at C.81.

PHOTOGRAPHS

A.17

Group photograph of Cambridge Zoology Department, with hand-drawn key by Pringle, n.d., 1930s.

Passport photograph of Pringle.

SECTION B CAMBRIDGE B.1 - B.32

- B.1 - B.13 Teaching material (dated)
- B.14-B.21 Teaching material (undated)
- B.22-B.25 Research notes and ideas
- B.26-B.32 Correspondence on supplies and specimens

The material, which is in typescript unless otherwise indicated, relates mainly to lectures and experiments for undergraduate teaching in the Department of Zoology.

Pringle's own research notes and notebooks are in Section D (but see B.22-B.25).

TEACHING MATERIAL (dated)

- B.1 'Gamete secretions', inscribed 'V. Rothschild 29-10-47'.
1p. table.

- B.2 'Optical and other Techniques in the Study of (a) the Micro- and Ultra-microscopic Structure, and (b) the Mechanical and other Properties, of Cell-Parts, Cells, and Multicellular and Extracellular Structures', 9 November-1 December 1954.

2pp. timetable for demonstrations and practical work.

- B.3 'Techniques for the study of the microscopic, ultramicroscopic & molecular structure of cell-components, cells, & multicellular & extracellular fibres', 8-30 November 1955.

2pp. timetable for demonstrations and practical work.

- B.4 'Comparative Physiology', introduction to lecture course and advice on experimental method, inscribed 'new beginning 1956'.

13pp. ms. and typescript draft.

Cambridge

- B.5, B.6 'Part II Zoology: Comparative Physiology', originally a course of 24 lectures, variously dated 1958 and 1959.
- Extensive ms. and typescript notes and drafts, originally found tied together and inscribed 'remains of old notes'. The original order has been preserved but the material has been divided between 2 folders for ease of reference. B.5 includes reading lists and material for lectures 2, 3, 6 and 7, B.6 material for lectures 13, 15, 11, 22 and 24.
- B.7 'Lectures on Experimental Embryology for Part II Lent 1958 S. Smith'.
2pp. synopsis and reading list for course of 5 lectures.
- B.8 'The mechanical properties of natural and synthetic plastics and their basis in molecular morphology. Their bearing on the mechanical properties of cell parts, cells, and multicellular and extracellular structures'. Contents of a folder inscribed 'Dr. Pringle. Cytology Practicals. 1959'.
- 29pp. instructions for practical work.
Folder includes 3pp. draft of part of the above.
- B.9-B.12 'Cytology and Cell Physiology', Michaelmas Term 1960 and 1961.
- Extensive sequence of ms. and typescript lecture notes, and related material, found tied together. The original order has been preserved but the material has been divided into four folders for ease of reference.
- B.9 Outline syllabuses; reading lists.
- B.10 Lectures 1-3, 5.
- B.11 Lectures 8-13, 18, 19, 23.
- B.12 Miscellaneous ms. notes.
- B.13 'Part I Zoology', Lent Term 1961.
- Course outline; reading list; notes with ms. corrections and addenda, many originally used for lectures given in Michaelmas 1958 and Lent 1959, incorporated into the later course.

Cambridge

TEACHING MATERIAL (undated)

Most of this is duplicated typescript for class use.

- B.14 'Cell Physiology'.
2pp. outline of a course of 8 lectures.
- B.15 'Investigation of the function of sense organs by observation of impulses in the nerves supplying them'.
4pp. notes on procedures for experiments.
- B.16 'Cytology'.
11pp. notes with ms. corrections on procedures for experiments, headed Cytology I-IV.
- B.17 Miscellaneous instructions for experiments on various laboratory animals.
- B.18 'Behaviour mechanisms - frog'.
14pp. notes on procedures for experiments, with ms. note from G.P. Wells: 'Enclosed with Hommage de l'Auteur. I perused in haste and with awe rather than understanding your Psychological thing (as expounded over the Pint Pots at Grantchester) and should welcome a copy for more serious perusal some time. Gip.'
- B.19 'Electrical Properties of Membranes'.
4pp. notes with ms. corrections, including suggestions for experiments.
- B.20 'Factors Influencing the Cohesion of Tissue-cells'.
1p. notes on procedures for experiments.
- B.21 'Surface-interactions of cells & their significance for the structure of the cell-surface'.
3pp. notes, including instructions for experiments.

Cambridge

RESEARCH NOTES AND IDEAS

- B.22 'Miscellaneous Ideas. The Institute for Synthetic Behaviour',
6 November 1945.
2pp. ms. notes on the aims, staff, programme, etc. of the
proposed institute.
- B.23 'Summary of work on Bombus control system; June 1956'.
2pp. draft, with a diagram inscribed 'not required'.
- B.24 'Macromolecules. Thoughts and speculations as a result of reading
"What is Life?" by Erwin Schroedinger' (published 1944).
3pp. notes with ms. addenda.
- B.25 'Preliminary ideas for some experiments in Animal Physiology',
n.d.
2pp. list.

For similar material during the Oxford period, see C.37-C.40.

CORRESPONDENCE ON SUPPLIES AND SPECIMENS

This sequence of correspondence, 1957-59, concerns the supply of rhinoceros,
dung- and other beetles from Africa and India, and various specimens including stag
beetles, from Britain.

- | | | | |
|------|----------------------|------|-------------------------|
| B.26 | 1957 June | B.30 | 1958 June, July |
| B.27 | 1957 July | B.31 | 1958 September, October |
| B.28 | 1957 August-November | B.32 | 1959 |
| B.29 | 1958 March-May | | |

For similar material during Oxford period, see C.45-C.47.

SECTION C	OXFORD C.1 - C.184
C.1 -C.26	LECTURES AND TEACHING MATERIAL With an introductory note.
C.27-C.50	ARC UNIT OF MUSCLE BIOPHYSICS AND INSECT PHYSIOLOGY With an introductory note. C.27-C.35 History and administration C.36-C.49 Research C.50 Internal memoranda
C.51-C.184	NEW ZOOLOGY LABORATORY With an introductory note

LECTURES AND TEACHING MATERIAL

Nearly all this material consists of drafts, notes and related material for lectures, and instructions for demonstrations and practical work for the Honour School of Zoology, particularly the biology preliminary courses 1962-80. Pringle sometimes gave a collaborative course with colleagues (see C.5) and teaching by others is also represented (see C.7, C.11 and C.20). His non-university teaching is represented at C.6, a course on introductory biology for the British Biophysical Society's summer school in molecular biology and biophysics, September 1966.

Pringle often added to, rejected and rewrote his teaching material to update it, e.g., C.18, where material has been gathered over a period of years.

Unless otherwise stated, notes and drafts are in typescript.

- C.1 'Second half of lecture. The vector concepts of central excitation', 1962.
6pp. incomplete draft with ms. corrections.
- C.2 Third year seminars, Trinity Term 1963, on 'Comparative Physiology of Excitable Tissues' and giant fibres.
Ms. and typescript notes, list of topics, reading list.

Oxford

- C.3 'Comparative Physiology', course of 8 lectures, Michaelmas Term 1963.
Extensive sequence of ms. and typescript notes and drafts, including material from lectures given in 1959.
- C.4 'Molecular Biology Phillips & North. Trinity Term 1964'.
5pp. ms. notes taken by Pringle at a course of lectures given by D.C. Phillips and A.C.T. North, with 3pp. table 'Chemical sequences of human haemoglobin and sperm whale myoglobin'.
- C.5 'Biology prelim. physiology course 1964/5'.
Incomplete sequence of notes and drafts of course of lectures given by Pringle and others, including reading lists and Pringle's notes on others' lectures.
- C.6 British Biophysical Society's summer school in molecular biology and biophysics, September 1966.
Four lectures for 'Introductory biology' course; lecture in 'Topics in Molecular Biophysics' course; synopses of lecture courses; 1p. ms. notes on another's lecture.
- C.7 'Physiology of animal behaviour', Michaelmas Term 1966.
Syllabus; notes for course of 8 lectures (Lecture 5 missing) with reading lists. Includes material from 1964 course and for a course on 'Physiology of the nerve axon', by D.J. Aidley.
- C.8 Bundle of notes, including some material from 'Physiology of Excitable Tissues' course, Michaelmas Term 1967 and 1968, and quizzes.
- C.9 Bundle of notes for general lectures on biology, 1967, 1968 and n.d.

'Research and Teaching at Universities (new notes: Hilary Term 1967)'; 'Information Lecture 1968'; extensive notes for course on 'The Organisation of Biology', n.d.

Oxford

- C.10 Lecture material, 1968.
Material 'for Julian Jack's lectures', Michaelmas Term 1968; 'Old muscle lecture notes (put away 1968 Dec)', including material from 1963-69; draft of a lecture on physiology, 8th of a course.
- C.11 Group of notes for course of lectures by D.C.S. White on 'Comparative Physiology of Excitable Tissues', Michaelmas Term 1969, with related and updated material (1970).
- C.12 'Trigonometrical functions and polar diagrams: applications', lecture for the Biology Preliminary course Applied Mathematics Option, 21 October 1970.
Draft, with related material.
- C.13 'Excitable Tissues old notes', with various ms. dates in 1971 and 1973.
- C.14 'Information Theory', lecture for 'Invertebrate nervous systems and behaviour' series, Trinity Term 1971.
8pp. draft with ms. corrections; reading list re-dated 1972.
- C.15 'Biology prelim physiology course', Hilary and Trinity Terms 1973.
Instructions for course of 15 practicals, with programme; lecture programme; reading list.
- C.16 'Biology prelim. physiology course', 1973-74.
Instructions for course of 15 practicals, with programme, reading list, etc.
- C.17 'Comparative physiology. Practical course in the physiology of circulation, respiration and excitable tissues', Michaelmas Term 1974.
Instructions for course of 8 practicals.

Oxford

- C.18 Notes, drafts and other material for lecture course for the Biology Preliminary Physiology Course, Hilary Term 1975.
- 'Membrane and nerve impulse lectures', including material dated 1969 and 1971.
- 'Active Transport' lecture, including material dated 1967-1974.
- C.19 Lecture and teaching material, Hilary Term 1976.
- Drafts, lists of references, etc. for lecture on 'The Origin of Life', including material dated 1970 and 1975.
- 'Demonstration of Nerve and Muscle Physiology'. Class handouts for eight experiments in Cell Biology Course (updated from 1973-74).
- C.20 'Demonstration of nerve and muscle physiology', for the Biology Preliminary Cell Biology Course, 10 March 1977.
- Class handouts for seven experiments; list of references; background material; 2pp. ms. notes by Pringle on research by others.
- C.21 'Practical course in the physiology of circulation; respiration and excitable tissues', Michaelmas Term 1977.
- Class handouts for course of eight experiments.
- C.22 Binder inscribed 'Excitable Tissues', containing lecture notes, quizzes, etc., variously dated 1968-77, probably last used for undergraduate teaching in Michaelmas Term 1977.
- C.23 Binder inscribed 'Physiology of Muscular Contraction', containing lecture notes, etc., variously dated 1967-78, probably last used for undergraduate teaching in Hilary Term 1978.
- C.24 'Analysis of biological regulatory mechanisms', Trinity Term 1978.
- Drafts, reading lists, etc., for lectures 1 and 2 of course.

Oxford

- C.25 'A. K. topics - flight', Hilary Term 1980.
7pp. draft with ms. corrections, references, background material.
- C.26 Undated material.

Instructions for 2 practicals on 'The physiology of animal behaviour;
summaries of 8 lectures on 'Cell Physiology'.

ARC UNIT OF MUSCLE BIOPHYSICS AND INSECT PHYSIOLOGY

- C.27-C.35 History and administration
C.36-C.49 Research
C.50 Internal memoranda

The Unit was the main focus of Pringle's research into muscular contractility. He first sought ARC support in 1963 and the Unit was formed in 1966 with Pringle as Honorary Director. He 'recruited a team of biochemists, a physiologist, a chemist, two zoologists, a physicist and an engineer' (Memoir, p.543). Pringle gives short accounts of the work in his papers for the ARC (C.28, C.33) and in his valedictory lecture as Linacre Professor (C.183).

Much of the correspondence in Section J is concerned with the appointment, research and careers of the Unit's personnel. A list of those associated with the Unit who have correspondence files in Section J is appended:

Abbott, R.H.; Allen, A.J.; Ashe, J.; Ashhurst, D.L.; Bell, J.L.; Bennett, R.M.; Bullard, B.; Cage, P.E.; Clarke, M.L.; Coffman, D.; Conn, D.L.T.; Connolly, C.M.P.A.; Coombs, R.W.; Craig, R.W.; Cuminetti, R.; Dodd, C.W.H.; Lebacqz, J.; Lehman, W.J.; Loveridge, J.H.; Luke, B.M.; Matthews, D.C.; Mercola, D.A.; Miles, M.; Morris, D.J.; Morris, E.; Neville, A.C.; Newsholme, E.A.; Ogata, M.; Pau, R.; Pimm, J.E.; Rajulu, G.S.; Rodger, C.;

Continued

Oxford

Rüegg, J.C.; Savage, A.F.W.; Spence, A.R.H.; Squire, J.M.; Steiger, G.J.;
Tregear, R.T.; Waters, L.; Whitehead, D.L.; Winkelman, H.C.; Wollmer, A.

History and administration

- C.27-C.31 'End of the Unit'.
Contents of a folder so inscribed. Principally correspondence and papers re ARC visitation, November 1976, to consider the future of the unit.
- C.27 Correspondence, February-November 1976
- C.28 Pringle's statements on 'The work of the Unit and its future', and on staff.
- C.29 ARC Unit report for April 1973-March 1974.
- C.30 ARC Unit report for April 1975-March 1976.
- C.31 Staff and equipment lists, 1976.
- C.32 Correspondence with ARC re closure of Unit, arrangements to transfer or retain equipment, 1978-79. Pringle proposed to retain some equipment for retirement research on the hive bee.
- C.33 Correspondence with ARC re final report on the Unit's work, 1980, typescript draft of the report, list of publications by members of the Unit, 2 photographs of insect specimens.
- C.34 Miscellaneous items re ARC Unit and Oxford Zoology Department.
- C.35 Photograph (with key) of ARC Unit staff, n.d.

Oxford

Research

- C.36 Hardback notebook with record of meetings of the Insect Muscle Research Group (precursor of ARC Unit), 2 December 1963-10 February 1964. The record was kept by B.R. Jewell. A typescript note inside the front cover sets out membership of group and times, location and purpose of meetings.
- C.37, C.38 Ms. and typescript notes by Pringle and others of talks, seminars and demonstrations, research reports and ideas, 1964-78.
2 folders.
- C.39 Miscellaneous ms. and typescript notes by Pringle and others of ideas for research at Oxford. Some dated 1969, 1970, 1977 and 1978.
Folder includes letter from Pringle to R.T. Tregear, 29 September 1978, on research discussions at University of Guelph where Pringle was Visiting Professor (E.63-E.76); 'Alpbach Notes', March 1977 (Pringle's ms. record of contributions from conference participants); 6pp. comments (not by Pringle) on a paper by C.W.F. McClare.
- C.40 Miscellaneous retirement research notes, c.1979-81. Includes extended ms. statement on 'New hypothesis for mechanism of transduction'. 1p. of this draft was written on the back of the first page of a letter from R.V. Jones, 20 March 1980, re ICUS and in particular whether the Unification Church tried to persuade students to give up their studies.
- C.41 '1962. Attempts to model Nyquist plots'.
Contents of a folder so inscribed. Includes correspondence with colleagues in Oxford Engineering Laboratory and Cambridge Zoology Department.
- C.42 Material, 1977-78, for R.H. Abbott's computer model for predicting mechanical response of insect flight, including Pringle's ms. notes; also Abbott's 1974 paper (ARC internal memorandum no.44) on use of plotter (used for program). See also J.1-J.4.

Oxford

- C.43 Papers by R.H. Abbott and collaborators (1977, 1981 and 1984) with ms. note by Abbott explaining their relation to Pringle's work. The 1984 paper was dedicated to Pringle's memory. (Material made available by R.H. Abbott 1986.)
- C.44 Not used.
- C.45-C.47 Correspondence re supplies and specimens, especially bugs and beetles. This material was made available by B. Bullard.
- C.45 1965, 1968
- C.46 1970-79
- C.47 1980-81. Includes correspondence with J. Ashe, a technician with the ARC Unit, who moved to Kenya to establish Bioken 'suppliers of educational biological material'.
- C.48 Brief research correspondence.
- C.49 List of ARC Unit publications, 1965-67.

Muscle Group current literature bulletins for May-October 1974 and November 1974.

Internal memoranda

- C.50 Sequence of duplicated papers, of varied content, including ideas and reports on research in hand, notes on lectures and papers at colloquia or conferences in UK and abroad, notes of articles, papers and research findings by colleagues. Some are in note or letter form, others with diagrams and figures prepared for publication; the authors are Pringle and other members of the Unit, and occasionally colleagues working elsewhere.
- The papers are in numerical order which does not always correspond to chronological order. The period covered is 1966-75. The numbering runs 1, 5, 6, 8-17, 19-46, 49.
- Papers by Pringle, alone or in collaboration, are 1, 5, 6, 8, 16 (draft for Bibliog. 1967c), 17, 21 (draft for Bibliog. 1968d), 22, 31, 35, 36, 39, 43, 46.
- 1 box.

Oxford

NEW ZOOLOGY LABORATORY

The material was received from the Oxford University Archives after the rest of the papers relating to Pringle's Oxford period had been catalogued. It relates exclusively to the planning and building of the new Zoology Laboratory and related controversies.

Pringle was offered the Linacre Chair of Zoology in December 1960; he accepted in June 1961 after prolonged negotiations with the University Registrar. He did so on the understanding that the building of a new Zoology Laboratory would begin in 1964 and that Professor Sir Alister Hardy was retiring early so that his successor might plan new developments from the outset. Difficulties arose over the site (half an acre in the Parks) and the design of the laboratory (a twenty-seven storey tower) and these came to a head in Congregation in June 1962 when the decree confirming the site was lost; a second decree approving the building could not therefore be put to the vote. Pringle responded three days later by presenting to the Vice-Chancellor (A.L.P. Norrington) and the Registrar a plan for the University to purchase Merton playing fields as a site for laboratories. In August Pringle, a Fellow of Merton, persuaded the Governing Body that 'if the University would commission an independent investigation of the needs for science by Sir William Holford and he recommended the use of the houses along the south of South Parks Road and the playing fields, then the College would sell them to the University'. The University agreed to this but Holford was not able to report quickly and Pringle gradually became convinced during the Michaelmas Term that there was a lack of determination in the University to act in respect of the new Zoological Laboratory. Accordingly, Pringle, with the assistance of A.L.P. Norrington (now retired from the Vice-Chancellorship), prepared a long letter to Council in which he sought public confirmation of the University's intentions. At the same time he prepared an account of the affair for the national press and let it be known that he was leaving for the United States of America on 4 December 1962. It was on this day that the new Vice-Chancellor (W.F. Oakeshott) made a statement in Congregation along the lines requested by Pringle.

Sir William Holford presented his report in the following May and on 18 June his recommendation that the Science Area should expand across South Parks Road onto the Merton land, was accepted by Congregation. The design of the new laboratory

Oxford

began again from scratch with a new architect (Sir Leslie Martin). By October 1970 the laboratory was ready for staff to move in and the official opening took place the following July.

The material has been presented in the following way. C.51-C.154 are a chronological sequence of committees, some university, for example the Committee on Requirements and Sites, and some departmental, for example the Zoology Department Building and Services Sub-committee. They cover in total the period 1960-72 and are interspersed with several of Pringle's 'historical' files, for example 'J.W.S.P. New Building Campaign' (C.77-C.91) and 'New Laboratory (third attempt)' (C.92-C.98). C.155-C.181 form an alphabetical sequence (by topic) relating to equipment, laboratory design, the move to new premises, and so on. C.182-C.184 are miscellaneous items.

Committee on Requirements and Sites

Correspondence and committee papers. The Requirements and Sites Committee was an ad hoc body reporting to the Building and Development Committee which in turn reported to the Hebdomadal Council.

- C.51 1960 February; 1961 February, May.
- C.52 1961 November (1)
- C.53 1961 November (2). Agenda and committee papers for meeting of 18 November.
- C.54 1961 November (3). Agenda and committee papers for meeting of 25 November, including letter from Pringle on Zoology building.
- C.55 1961 December (1). Agenda and committee papers for meeting of 2 December, including letter from Pringle on revision of northern boundary of the Science Area.

Oxford

- C.56 1961 December (2). Committee papers for meeting of 19 December, including map of northern boundary of Science Area.
- C.57 1962 January (1). Map of Science Area showing suggested site of development for Zoology; committee papers for meeting of 16 January.
- C.58 1962 January (2). Includes draft report to Council re siting of the Zoology building at the eastern end of the Science Area.
- C.59 1962 January (3). Agenda and committee papers for meeting of 27 January, including memorandum from Pringle and G.C. Varley on entomology.
- C.60 1962 January (4). Includes drafts of report to Council re siting of the Zoology building immediately north of the Dunn School of Pathology.
- C.61 1962 February (1). Agenda and committee papers for meeting of 3 February.
- C.62 1962 February (2). Includes agenda and committee papers for meeting of 24 February.
- C.63 1962 March (1). Agendas and committee papers for meetings of 3 and 17 March. Includes memorandum by Pringle on the university museum.
- C.64 1962 March (2). Architect's brief for Zoology building; minutes of meeting of 17 March.
- C.65 1962 April. Includes architect's drawings of possible sitings for Zoology Department.
- C.66 1962 May (1). Minutes of meeting of 1 May; agenda, committee papers and minutes of meeting of 5 May.

Oxford

- C.67 1962 May (2). Includes agenda, committee papers and minutes of meeting of 19 May; papers re meeting of 24 May.
- C.68 1962 May (3). Papers re space requirements of the science departments 1962-82.
- C.69 1962 June (1). Includes revised draft of report on requirements of science departments and revised schedule of space requirements 1962-82.
- C.70 1962 June (2). Includes amendments and corrections to report on requirements; press-cuttings re Congregation decision to reject new Zoology building.
- C.71 1962 July. Includes agenda, committee papers and minutes of meeting of 16 July.
- C.72 1962 September, October. Includes agenda and committee papers for meeting of 26 September.
- C.73 N.d. Memorandum by W.D.M. Paton and report on accommodation of collections in the university museum.

Science Area Planning Committee

- C.74 1961 December. Includes papers re meeting of 11 December prepared by W.F. Oakeshott.
- C.75 1962 January, February. Includes notes of meetings and 10pp. 'Statement of requirements for new Zoology Laboratory'.
- C.76 1962 March, April. Includes agenda and committee papers prepared for meeting of 2 April.

Oxford

'J.W.S.P. New Building Campaign'

- C.77 Autobiographical account dated 18 March 1962 and beginning 'if my biography is ever written'. Outlines Pringle's reasons for accepting Oxford chair and subsequent frustrations in respect of the new Zoology Laboratory.
- C.78 Letters from colleagues written shortly before the vote in Congregation on 19 June 1962.
- C.79, C.80 'Letters of condolence' (Pringle's designation). These are letters of sympathy and commiseration from colleagues written shortly after the vote in Congregation, with a small number of Pringle's carbon replies.
- C.79 C - L C.80 O - Z and first names only.
- C.81 Poem by Pringle entitled 'Encaenia 1962'; 1p. draft identified by Pringle as 'unfinished article written in June 1962 in expectation of approval of site for new laboratory'.
- C.82-C.91 Correspondence with colleagues, officers of the university and others re efforts to revive the Zoology building programme, June 1962-October 1963.
- C.82 1962 June. Includes carbons of Pringle's letters to the Vice-Chancellor of 20, 23 and 25 June, and letter from the Warden of Merton (G.R.G. Mure) of 21 June.
- C.83 1962 July. Includes correspondence with J.S. Huxley leading up to Huxley's letter of 20 July to the Vice-Chancellor, a copy of which is enclosed. Kept with this correspondence is an earlier (February 1962) letter from Huxley to Pringle about Oxford Zoology.
- C.84 1962 August. Principally correspondence with W.F. Oakeshott and the Registrar.
- C.85 1962 September.
- C.86 1962 October. Includes drafts of Pringle's formal letter about the new Zoology laboratory for the Vice-Chancellor and Hebdomadal Council, and the letter as sent, 31 October. A.L.P. Norrington assisted in the drafting of the letter.

Continued

Oxford

C.87 1962 November. Includes correspondence with the Vice-Chancellor arising from Pringle's letter of 31 October.

C.88 1962 December. Includes photocopied extract from O.U. Gazette with A.L.P. Norrington's statement in Congregation on behalf of the Hebdomadal Council re the new Zoology building, 6 December.

C.89 1963 January. Correspondence with Lord Franks and J. Jewkes re Historical Buildings Fund appeal and with J.R. Baker and W.D.M. Paton re committee of Heads of Science Departments on the future of biology in Oxford.

C.90 1963 February-April, June, October.

C.91 N.d. Includes draft speech in Congregation and 'draft statement to the Times'.

'New Laboratory (third attempt)'

C.92 1962 February, April. Schedule for Zoology Laboratory and related correspondence.

C.93 1963 June. Correspondence with University Surveyor.

C.94 1963 July (1). Includes correspondence with University Surveyor and minutes of Building and Development Committee meeting of 13 July.

C.95 1963 July (2). Includes papers of Committee on Elevations and Choice of Architects, revised schedule for Zoology Laboratory, correspondence with P. Chamberlin FRIBA.

C.96 1963 October, November. Includes correspondence with Sir Leslie Martin FRIBA and papers re meeting of the Working Party on the South Parks area, 26 November.

C.97 1963 December. Includes memorandum by Pringle on the revised schedule for Zoology and copy of draft letter to the University Grants Committee re schedules for Zoology and Psychology.

Oxford

C.98 1964 February, March. Reply from UGC and brief correspondence arising.

Building and Development Committee

C.99 1962 May.

C.100 1962 November. Agenda and committee papers for meeting of 24 November, including Pringle's proposals for interim improvements in Zoology Department and statement of requirements for outside accommodation.

C.101 1963 June, November, December. Includes Pringle's ms. notes on the report of the Committee on the Relationship of Council and the Chest.

C.102 1964 March, May. Includes letter from D.C. Phillips of 25 May re possibilities for a Department of Molecular Biophysics in Oxford (7pp. + appendix).

C.103 1964 June. Includes copy of letter from Sir Harold Himsworth to the Registrar re possible Medical Research Council support for Phillips if he moved to Oxford.

C.104 1964 July. Includes report of the Building and Development Committee on the South Parks Road development and applications to the MRC and the Nuffield Foundation for assistance in connection with the development of Biophysics.

C.105 1964 December. Includes report by the Committee for Works on the new Zoology building.

C.106 1965 February, March.

C.107 1965 June, July. Includes agenda and committee papers for meeting of 13 July.

Oxford

'J.W.S.P. Holford Report'

- C.108 1962 June, October, November. Carbons of Pringle's letters to Registrar and Vice-Chancellor.
- C.109 1963 January. Correspondence with Registrar, including Pringle's representations on the university's administrative procedures. Folder also includes copies of earlier correspondence between Registrar and architect, P. Chamberlin.
- C.110 1963 March-May. Continuing correspondence with Registrar, Pringle's note on 'Planning for Science', 7 May, and W.D.M. Paton's note on meeting of Planning Subcommittee of Heads of Science Department, 18 May.
- C.111 1963 June. Correspondence with the Vice-Chancellor, notes for discussion at Building and Development Committee meeting, 8 June, minutes of the meeting, etc.
- C.112 1963 July, November. Includes draft and copy of letter from W.D.M. Paton (Chairman, Heads of Science Planning Subcommittee) to Vice-Chancellor on the general problem of future planning.
- C.113 N.d.
- C.114 Press-cuttings.

'South Parks Road Area: Working Party 1963/4'

- C.115 1963 July. Committee papers and minutes of meeting of 30 July.
- C.116 1964 February. Committee papers for meeting of 18 February.
- C.117 1964 April, May. Notes for discussion at meeting of 30 April; 'Outline Proposals for the Development of a New Science Area, South Parks Road, Oxford' (Press release).

Oxford

University Grants Committee

- C.118 1963 December; 1964 March, April. Includes note of meeting with U.G.C. on 23 April.
- C.119 1964 May, July, October.

'Key papers giving history'

- C.120 Miscellaneous correspondence, 1964 and n.d.
- C.121 Schedule for Zoology Laboratory, February 1962.

Proposed Buildings for the Departments of Zoology and Psychology, South Parks Road, Oxford. n.d. but after May 1963.
- C.122 Statement of requirements for new Zoology Laboratory, 30 January 1964.

Proposed layout for the Science Area, South Parks Road, February 1964.
- C.123 Draft Schedule I for new Zoology Laboratory. Restatement of requirements, May 1964.
- C.124 Plans of levels A-F, 12 May 1964; early sketch of appearance of entrance hall, n.d.
- C.125 Memoranda for Building Committee, miscellaneous notes on aspects of new laboratory, August-December 1964; also undated ms. notes on layout and services.
- C.126 'Plans for New Laboratory' with ms. note 'original schedule, incl. Hope Dept.'; 14 September 1964.

'Biophysics - Schedule A', 14 September 1964.

'Re-statement of Schedule I for Zoology, with notes on functional design', n.d.

Oxford

- C.127 '1965-6. Services, mainly water including marine installation'.
Contents of a folder so inscribed.
- C.128 'Some thoughts on furniture', 10 March 1965; notes of discussions
and letter re the tropical room, 1965, 1966.
- C.129 Architect's drawings, 1966, 1967 and n.d.
- C.130 Equipment allocation for Zoology Department, 1968-72 (bound
volume). 2 loose items re supplementary application, May 1969.

'Building sub-comm. (OUSO/Dept.)'

Contents of a folder so inscribed.

Correspondence, notes for discussion, minutes of meetings with
Oxford University Surveyor's Office, members of Zoology Depart-
ment, architects, consultants, contractors; also lists of equip-
ment, space allocations, costs.

- | | | | |
|-------|--------------------|-------|-------------------------|
| C.131 | 1967 | C.134 | 1969 February-July |
| C.132 | 1968 January-March | C.135 | 1969 September-December |
| C.133 | 1968 April-August | C.136 | 1970 |

Building Committee

Minutes only of meetings of Building Committee. The committee
was composed of members of the Zoology Department and the
architects and met in the Department.

- | | | | |
|-------|------------------------|-------|-----------------------------|
| C.137 | 1967 October-December | C.139 | 1968 March, April, November |
| C.138 | 1968 January, February | C.140 | 1969 January, November |

Oxford

Committee for Works

Correspondence, committee papers and minutes.

C.141 1968 March C.143 1969

C.142 1968 May, December C.144 1970

Department of Zoology Building and Services Committee

Committee papers and minutes.

C.145 1971 February C.149 1971 July

C.146 1971 March C.150 1971 August

C.147 1971 April, May C.151 September, October

C.148 1971 June C.152 1971 November, December

C.153 1972 January-March

Zoology/Psychology Building: Building and Services Sub-committee

C.154 Committee papers and minutes, 1972

EQUIPMENT, LABORATORY DESIGN, etc. In alphabetical order by topic.

CCTV

C.155 Correspondence and papers re the installation of a system of closed circuit television, 1967-74.

C.156 Architect's drawings, May and December 1970, re television installation.

C.157 Printed material: University Television Newsletter, no.2, January 1968 and manufacturers' catalogues.

Oxford

Display

- C.158 Correspondence, etc. re aquarium and vivarium display, 1970.

Enzyme Laboratory

- C.159 Brief correspondence, note of a meeting with D.C. Phillips and others re proposals for Enzyme Group, architect's drawing, etc., 1971.

General

- C.160 Correspondence with Surveyor's Office, note of points for discussion with architects, departmental circulars, etc., 1970-71.

Lecture Rooms

- C.161 Equipment lists, minutes of meetings to discuss lecture theatre design, letter from A.C.T. North, February 1970.
- C.162 Equipment list, minutes of meetings to discuss lecture theatre design, correspondence, Pringle's ms. notes, March-August 1970.
- C.163 Correspondence, equipment list, Pringle's ms. notes, 1971 and n.d.
- C.164 Architect's drawing, January 1967.
- C.165 Architect's drawings, February 1970.
- C.166 Architect's drawings, June 1970 and n.d.

Oxford

Merton Playing Field

The contents of this folder were divided into three by Pringle and this arrangement is respected below. Pringle's note 'All sent to Prof. Ewart Jones 21.i.76' (included in C.167) apparently applied to the entire contents of the original folder and not to any one of the three subdivisions of the material.

- C.167 'Planting along N and E of Z-XpPsy Building'.
Correspondence with Acting Curator of the Parks and Surveyor's Office re planting round new Zoology/Psychology Building, March-June 1971.
- C.168 'Planting to S of Zoology'.
Brief correspondence, June 1971.
- C.169 'Access to Merton Playing Field'.
Correspondence with the Warden of Merton (R.E. Richards) and the University Surveyor, June, July 1971.

Minor Works

- C.170 One letter only, from Pringle to University Surveyor, 12 January 1972.

The Move

- C.171 Departmental circulars, August, September 1970.
- C.172 Architect's drawing, August 1970.
- C.173 Letter from D.C. Phillips, 26 October 1970; Pringle's ms. and typescript notes, n.d.

Oxford

Official Opening, 12 July 1971

The building was opened by A.L. Hodgkin, President of the Royal Society.

- C.174 Correspondence re arrangements, February-July 1971.
- C.175 Programme of events, explanatory notes on demonstrations, lists of teaching and research staff, current research interests.
- C.176 Drafts on Departments of Zoology and Experimental Psychology for printed booklet, copy of printed booklet.
- C.177 Miscellaneous ms. and typescript notes; proof invitation card.
- C.178 Photographs.
- C.179 Duplicated and printed background material.

Roofs and cultivation areas

- C.180 Correspondence, 1971, 1972, 1976; ms. note of meeting, architect's drawings.

Teaching Laboratories

- C.181 Circular only re Goodrich Laboratory, 13 November 1970.

Oxford

MISCELLANEOUS ITEMS

- C.182 Preliminary report by Chamberlin, Powell & Bon, architects on the University of Oxford new Zoology Building, May 1962; also (as loose item) letter from University Surveyor to Pringle, 1 August 1979.
- C.183 'Oxford Zoology 1961-79', lecture given in the Department of Zoology, 28 May 1979.
20pp. typescript.
The 'master copy' is at A.3.
- C.184 Thomas Sharp, 'Dreaming Spires and Teeming Towers. The Character of Cambridge' (reprint from Town Planning Review 1963).

SECTION D RESEARCH D.1 - D.57

D.1, D.2	Theses
D.3 -D.29	Notebooks
D.30-D.53	Cicadas
D.54	Bees
D.55-D.57	Drawings and diagrams

THESES

- D.1 'Co-ordination of movement in insects', December 1936.
Typescript with a few ms. corrections. Bound.
- D.2 'A physiological analysis of insect movement', December 1937.
Typescript, incorporating Bibliog. 1938a. Bound.

NOTEBOOKS

- D.3 School notebook of notes and exercises on chemistry, some with teacher's corrections, some dated 1928.
- D.4 Journal of expedition to Atlas Mountains to study ecology of fresh-water springs, with A.L. Hodgkin, P.T. Cotton and K.H. Chapman. Entries run 5 July-18 September 1934 (Memoir, p.526). At rear of book, a few later notes and draft for publication.
- D.5 'Insects 1936-7'.
Soft-backed notebook with some loose pages and diagrams intercalated. Experimental notes and results. Entries run 13 February-8 October (no year given).
- D.6 'The mechanism of photophobotaxis in *Dendrocoelum lacteum*', n.d.
With a ms. note by Pringle 'Thesis by P. Ulliott'.

Research

- D.7 Soft-backed notebook of miscellaneous notes and diagrams on animal nervous system and response, latest reference 1938. Possibly prepared for or related to Pringle's intended year as a Rockefeller Fellow in Philadelphia, cut short by outbreak of war in 1939 (Memoir, pp.526-27).
- D.8 Soft-backed notebook of work on the halteres of Diptera, begun in 1938 (Bibliog. 1938d) and resumed on Pringle's return from war service in 1945; a systematic re-examination of the earlier data was undertaken from September 1947 and led to a fuller publication (Bibliog. 1948). An account of the research is given in Memoir, pp.539-40 where the 1948 paper is described as 'a classic of beautifully detailed work'.

At front of book, entries run from 26 May 1938; later, entry headed 25 August 1945 'Evening 11.45 pm' begins 'Re-reading my motor paper in the light of Gasser's theory ...' and includes three new experiments to do. Entries continue 15 October 1945 on solenoids and circuits, 16 December on Vector theory, 12 September 1947 'Examination of old haltere records' (continues to 8 July 1948).
- D.9 Notebook of notes, results, calculations, diagrams, with some loose pages intercalated. Entries begin 2 May 1946 (work on halteres), and continue to August 1951.

Included as loose pages are letter and comment from R.A. Lyttelton, August 1947.
- D.10 Notebook of miscellaneous dates and content. Includes notes and results, July-October 1948; July 13 'Résumé of British Association paper' (on synapses); draft for lecture on 'Zoological physiology' n.d., given at Physiology Laboratory, Cambridge; March-May 1950 work on myofibrils; notes on chemoreception in Limulus 1954.
- D.11 Notebook of miscellaneous dates and content; several pages torn out. Only a few pages or items dated.

Includes 'Essay on the applicability to human society of the "laws of nature"', n.d.; notes, narratives and diagrams on 'Biological Servo Mechanisms', n.d. latest reference 1946; 'Report on London visit 7/1/48'; extensive notes on muscle excitation by stretching; drafts on 'The Evolution of the Nerve Impulse', 'Theory of Excitation' some dated November 1949, perhaps related to Bibliog. 1949; 'Outline of paper' on 'Electron microscopy studies on the myofibrils

Research

- D.11 (Cont'd.) of insect flight muscle 23/ii/50'; 'Notes for Shrivenham lecture' on 'Automatic control problems in animal movement'; 'The wing movement of the bee 18.i.57'.
- At rear of book, 1p. entry on 'Scientific Laws'.
- D.12 Notebook of stimulation experiments, results, diagrams, calculations, begun by V.J. Wilson (visiting collaborator) with comments by Pringle, continuation by Pringle. Includes letter from Wilson, August 1950. Perhaps related to Bibliog. 1952.
- D.13 Notebook inscribed 'Dec. 1951' of miscellaneous dates and content, with some loose pages intercalated.
- Includes 'Research Notes', December 1951-July 1952; 'Colombo Physiology Lab.' various dates 18 February-10 May 1953, recording work during visit to Ceylon; miscellaneous notes and calculations May, July 1954; draft paper on 'The function of the lyriform organs of Arachnids' (Bibliog. 1955a); analyses of cicada song, various dates October, November 1954; 'Outline of article for Endeavour' (Bibliog. 1956a); organisation of lectures and teaching Long Vacation and Michaelmas term, n.d.
- At rear of book, miscellaneous lists of species, bibliographical references.
- D.14 Loose leaf binder, with a few loose pages. Mainly circuits, diagrams and notes on equipment; also lists of apparatus and packages, to be taken to Ceylon for 1953 visit.
- D.15 Notebook of miscellaneous dates, on cicadas. Includes 1p. dated September 1951, miscellaneous notes and drawings from August 1952 on 'Platypleura capitata from Colombo', but mainly notes, observations and drawings made in Colombo on various cicada species, 14 March-30 April 1953. Also included as loose item is ms. draft for 'Physiology of song in cicadas' (Bibliog. 1953b).
- D.15A Small format notebook with thumb-index. Mainly names and addresses of colleagues or contacts in Ceylon.
- At rear of book, vocabulary items, useful phrases, examples of script, etc., and a few research notes.

Research

- D.16 Notebook, May 1953-September 1954. Continuing notes, observations, calculations on cicadas in Colombo 4 May-29 June 1953, notes and plans for papers to be written up on results (Bibliog. 1954b, 1954c), notes on cicada collections at Colombo and British Museum August 1953, continuing notes and analyses September 1953-September 1954.
- D.17 Notebook, many pages torn out. Surviving pages mainly ms. draft for 'Proprioception in Limulus' (Bibliog. 1956c).

All the remaining notebooks deal with insect flight muscle which became Pringle's principal research interest. They begin in Cambridge in 1957, continuing through the move to Oxford and a change of format to loose-leaf binders. Further related material can be found in Section C, A.R.C. Unit.

- D.18 Hard-backed notebook of work on 'Flight muscle'. Notes, diagrams, calculations, 31 May 1957-February 1958 and many undated pages. Work on rhino beetles.
- D.19 Similar, inscribed 'Fibrillar Muscle II', March 1958.
- D.20 Similar, inscribed 'Fibrillar Muscle III', several pages torn out. Work by Pringle and K.E. Machin, April-July 1958, March 1959, some pages with a note 'paper', perhaps Bibliog. 1959b.
- D.21 Similar, inscribed 'IV'.
July-October 1958; at rear of book 'Catalogue of useful experiments to date', 16 July 1957-3 June 1961, almost all on rhino beetle.
- D.22 Similar, inscribed 'Fibrillar Muscle V'.
Work by Pringle and Machin, and another; experiments, diagrams, results, with several annotations, ideas and comments, 6 April 1959-19 January 1961 (continuation of D.20). Some pages with a note 'paper' or 'film', perhaps Bibliog. 1960a.

Research

- D.23 Similar, inscribed 'Fibrillar Muscle VI', several pages torn out.
Continuation of D.22, pages numbered 1-40, 19 January-2 February 1961.
- D.24 Similar, inscribed 'Fibrillar muscle VII', not all in Pringle's hand.
Continuation of D.23, various dates 17 February-June 1961, December 1962-June 1963; a few pages used at rear of book, April 1963.
- D.25 Similar, no inscription.
Inside, work headed 'Oxford', not all in Pringle's hand, experiments, diagrams, calculations, notes on apparatus, etc., 29 December 1961-28 June 1963. A little similar material at rear of book.
Enclosed as loose items, 4pp. 'Notes on experiments August 1962' by Machin and Pringle.
- D.26 Notebook of work on Fibrils, kept by V. Petts, July 1963-January 1964. Few pages used.
- D.27 Pages taken from a loose-leaf binder similar to D.29 and regularly used in the Oxford Department and therefore included among 'note-books'. The pages were tied together with string by Pringle and are not in chronological order; dated pages run April 1964-July 1965.
The material includes notes on the literature, discussions with colleagues, notes for lectures, of lectures and papers by others, for discussions and research talks, experimental results, hypotheses and experiments to be tried.
- D.28 Pages from a loose-leaf binder, similar in date and content to D.27. Dated entries (not in chronological order) run from July 1964-November 1965.
Research ideas, drafts for lectures and papers given or attended. Includes 'draft programme of lectures in Japan: September 1965' with drafts, notes of comments or papers given by others at Japan meeting.

Research

- D.34 Broughton, W.B. 1960
Terminology.
- D.35 Burke, W. 1963-66
Includes photographs, prints of recordings.
- D.36 China, W.E. 1954-55, 1962-63
Taxonomy of cicadas, including new species from Ceylon.
- D.37 Fleming, C.A. 1967, 1969, 1970
New Zealand cicadas.
- D.38 Grant, J.A. and others 1963-65
Mainly on proposed recording of Melampsalta montana.
- D.39, D.40 Hudson, R.C.L. 1964-69
D.39 Correspondence and notes re cicadas and other findings of University of Edinburgh Expedition to Madagascar, 1963 (Hudson was Secretary, Pringle and M.M. Swann were Sponsors). Includes Hudson's field-notes lent to Pringle.
D.40 Copy of 'Preliminary Report' by Hudson on Madagascar expedition.
- D.41 Josephson, R.K. 1978, 1980
- D.42 Michelson, A. 1973, 1975
Correspondence 1975 includes paper on cicadas by A.V. Popov.
- D.43 Moore, T.E. various dates 1957-66, 1980
Pringle's letter of February 1980 refers to his plans for retirement research on 'a catalogue of song-patterns' and 'the taxonomic distribution of the synchronous and asynchronous mechanisms for generation of the rhythm of pulses'.

Research

- | | | |
|------|--|------------|
| D.44 | Ragge, D.R.
<u>re</u> tapes and recordings. | 1967 |
| D.45 | Schremmer, F. | 1960 |
| D.46 | Strübing, H. | 1960 |
| D.47 | Wagner, W. | 1960 |
| D.48 | White, D.C.S.
Paper and photographs of <u>cicadetta montana</u> . | n.d. |
| D.49 | Wohlers, D.
Paper on timbal nerve. | 1980 |
| D.50 | Young, D. | 1972, 1980 |
| D.51 | Zahlan, A.
Paper on cicada song in Beirut. | 1961-62 |
| D.52 | Miscellaneous shorter correspondence. | 1956-80 |
| D.53 | Miscellaneous data. | |

Research

BEES

This was another long-standing interest of Pringle, which he intended to take up again for active retirement research.

- D.54 Correspondence with International Bee Research Association and with colleagues on various topics of research and nomenclature, 1979-80. See G.1-G.11 for further IBRA material.

DRAWINGS AND DIAGRAMS

Examples only. The advice of Dr. Belinda Bullard in selecting this material is gratefully acknowledged.

- D.55 Design for stimulator apparatus, with Pringle's indication of layout ready for labelling by workshop.
- D.56 Examples of figures, drawings and diagrams of all topics of Pringle's research, made by him for papers and lectures. 1 bundle.
- D.57 Glass slide of locust thorax.

SECTION E LECTURES AND PUBLICATIONS E.1 - E.144

E.1 - E.97	Lectures with an introductory note
E.98 - E.127	Publications
E.128-E.131	Book reviews
E.132-E.144	Correspondence with publishers and editors

LECTURES

The material presented here covers a period of over thirty years, 1949-80. There is one significantly earlier item: the draft of a lecture which Pringle gave to the Cambridge University Natural Science Club during his time as an undergraduate 1931-34 (E.1, perhaps also E.91, E.92).

Pringle lectured to a wide variety of academic and non-academic audiences in Britain and overseas, principally on insect flight, although there are examples of his exploring more general topics such as 'The two biologies' in his inaugural lecture as Linacre Professor at Oxford (E.15) or 'Limits of scientific knowledge', also to an Oxford audience (E.34). Of interest also is his undated speculative talk on evolution to the Ratio Club (E.94). Unfortunately no material survives of Pringle's Croonian Lecture at the Royal Society in 1978 (Memoir, pp.544, 545).

Pringle usually typed his lecture scripts himself, sometimes adding notes or corrections in manuscript. There are a few drafts or notes in manuscript only and these are indicated in the catalogue entries.

For lectures and other teaching material at Cambridge and Oxford, see Sections B and C. For further material on some of the conferences where Pringle gave lectures or talks, see Section H. See also Section D for Pringle's drafts for lectures and papers incorporated in his research notebooks.

- E.1 'The Illusion of Consciousness'
14pp. heavily-corrected, with a ms. note on verso of last page
'Draft of talk given to Cambridge University Natural Science Club
while an undergraduate'. See Memoir, p.526.

Lectures and publications

- E.2 'Proletariat Biology', c.1949.
7pp., with ms. corrections.
- E.3 'Random events in the nervous system Tea Party Talk',
16 February 1951.
7pp., with ms. corrections and addenda.
- E.4 'The Origin of Life', talk for 'The frontiers of knowledge' series,
BBC European Service, first broadcast on the English Service,
14 August 1956 and published as Bibliog. 1956d.
Script as broadcast.
- E.5 'The Comparative Physiology of Striated Muscle', 1957.
10pp., with ms. corrections.
- E.6 'Insect fibrillar muscle', Hardy Club, 22 May 1958.
4pp., with ms. corrections.
- E.7 Talk on 'insect fibrillar muscle', Foster Club, 24 November 1960.
3pp., with ms. corrections.
- E.8 Talk on 'certain properties of the striated muscles of Arthropods',
Biophysics Society, 19 December 1960.
3pp., with ms. corrections.
- E.9 'The flight mechanism of the bee', Dublin, 27 April 1961.
1p. notes only.
- E.10 'The peculiarities of flight in insects', Rennes, May 1961.
Drafts in English and French, all with ms. corrections.

Lectures and publications

- E.11 'Proprioceptive reflexes', Anatomy Laboratory, Oxford, 12 March 1962.
2pp. typescript and ms. notes.
- E.12 'Insect flight muscle', Lecture to 'BIOS', 12 November 1962.
3pp. typescript and ms. notes.
- E.13 'The control of power in insect flight', Society for Experimental Biology, Exeter, 5 April 1963.
3pp., with ms. corrections.
- E.14 'Dynamic mechanisms of insect flight', Services summer school, September 1963.
2pp., with ms. corrections.
- E.15 'The two biologies', Oxford University inaugural lecture, 24 October 1963, published as Bibliog. 1963b.
14pp. ms. and typescript 'Notes used in preparing Inaugural lecture'. See Memoir, pp.532, 533.
- E.16 Seminar on work of H.E. Huxley, 28 January 1964.
2pp. ms. notes only.
- E.17 'First-year biology courses at the University', Biological Sciences Section, Association of Technical Colleges and Department of Education conference, Jesus College, Oxford, 25 September 1964.
18pp., with ms. corrections; conference programme.
- E.18 'Cicada Song', Aberystwyth, 8 December 1964.
Brief notes only, including some on same topic dated November 1962.
- E.19 'The Nature of Explanation in Biology', Sixth Form Conference on 'Truth & Error', Jesus College, Oxford, 7 July 1965.
7pp., with ms. corrections.

Lectures and publications

- E.20 'Models of learning', Biological Organisation Group, Middlesex Hospital Medical School, 18 January 1966.
7pp., with ms. corrections.
- E.21 Not used.
- E.22 'The Contractile Mechanism of Insect Fibrillar Muscle', Cambridge, 4 November 1966.
2pp. notes with ms. addenda.
- E.23 Lecture on the 'nature of the mechanisms which convert chemical to mechanical energy', Biophysics Laboratory, Harvard, 6 December 1966.
3pp., with ms. corrections.
- E.24 'Insect flight', Clarendon Laboratory, Oxford, 17 March 1967.
2pp., with ms. corrections.
- E.25 'The Biophysics of Muscle Contraction', Nuffield Department of Orthopaedics, Oxford, 21 April 1967.
5pp., with ms. corrections.
- E.26 Talk on insect flight muscle, Hull, 31 October 1967.
2pp. ms. notes.
- E.27 'Power and Control in Insect Flight', Reading, 14 November 1967.
3pp., with ms. corrections; table of 'The nine pairs of flight muscles in insects'.
- E.28 Lecture on insect flight, Marlborough, 7 February 1968.
1p. ms. notes only.

Lectures and publications

- E.29 'Stability and Control in Insect Flight', Oxford Entomological Society, 8 March 1968.
2pp. notes with ms. corrections.
- E.30 'Molecular machinery', Cambridge University Natural Science Club, 23 May 1968.
3pp., with ms. corrections and diagrams.
- E.31 'Mechanochemical coupling in striated muscle', Glasgow, 18 June 1968.
1p. ms. notes only.
- E.32 'Oscillatory activity of the isolated contractile system of insect fibrillar muscle', Royal Society, 6 March 1969.
6pp. and 9pp. notes and drafts.
- E.33 Lecture at the Weizmann Institute, 19 March 1969.
2pp. ms. notes.

Seminar at the Weizmann Institute, 23 March 1969.
2pp. ms. draft; 1p. list of slides.
- E.34 'The Limits of Scientific Knowledge', Socratic Club, Oxford, 2 May 1969.
Miscellaneous notes and drafts; background material; brief correspondence.
- E.35 Talk on the embryology of the chick, 26 November 1969.
1p. ms. notes only.
- E.36 'Taxonomy of muscle cells', Leeds Biological Society, 11 December 1969.
5pp., with ms. corrections.

Lectures and publications

- E.37 Seminar on insect muscle fibre, 11 March 1970.
7pp. notes, with ms. corrections.
- E.38 'Lecture on Information Theory translated into French for Professor Pringle', Marseilles, 23 May 1970.
16pp., with ms. corrections.
- E.39 'Structure and composition of the Z-line in striated muscles', Paris, 28 May 1970.
7pp., with ms. corrections.
- E.40 'The Physiology of Insect Flight Muscle', Dijon, 29 May 1970.
1p. draft; 2pp. draft with ms. corrections entitled 'The Flight Muscles of Insects', probably used for this lecture.
- E.41 'Structural and biochemical peculiarities of insect fibrillar muscle', Zoological Institute, Frankfurt, January 1971.
5pp. with ms. corrections; also includes ms. notes for lecture at Bochum given during visit to West Germany (see J.111).
- E.42 'Insect Singers of Ceylon', Malvern, January 1971.
6pp., with ms. corrections; 1p. ms. notes; 1p. list of insect songs.
- E.43 'The Flight of Insects', extra-mural lecture, 19 February 1971.
8pp., with ms. corrections; 1p. 'Supplementary notes for B.R.A. lecture, 8th May 1971' found with it.
- E.44 'Insect Song', extra-mural lecture, 19 March 1971.
6pp., with ms. corrections; 1p. list of insect songs.
- E.45 'Physiology and biochemistry of oscillatory muscles', 25th International Congress of Physiological Sciences, Munich, July 1971.
8pp., with ms. corrections; abstract. See also H.1.

Lectures and publications

- E.46 'Muscular contraction', Clarendon Laboratory seminar, Oxford, 28 January 1972.
4pp., with ms. corrections.
- E.47 'Physiological Techniques', first of three lectures given at Erice, Sicily, 4 April 1972.
6pp., with ms. corrections; synopsis; list of references; background material.
- E.48 'Oscillatory Contraction of Insect Flight Muscle', Erice, 11 April 1972. Probably second in series (see E.47).
3pp., with ms. corrections; synopsis; list of references. Folder includes Pringle's letter of thanks.
- E.49 'Muscular contraction', for 'Extramural Studies', 8 February 1974.
5pp., with ms. corrections.
- E.50 'Insect fibrillar muscle and the problem of contractility', Second International Conference on Comparative Physiology, Ascona, June 1974.
7pp., with ms. corrections; correspondence, September 1973-July 1974, including provisional programme for conference.
- E.51 'The Contractile System in Insect Muscle', 50th anniversary meeting of the Society for Experimental Biology, Cambridge, July 1974.
4pp. and 6pp. drafts; background material.
- E.52 'The Resting Elasticity of Insect Flight Muscle', Third European Continental Muscle Meeting, Budapest, September 1974.
Miscellaneous shorter drafts. Also included here are programme and abstracts with Pringle's ms. comments, and letter of thanks to organiser.
- E.53 'Insect Flight', Scientific Society, Haileybury School, 3 October 1974.
4pp. draft.

Lectures and publications

- E.54 'International Biological Research', Oxford Graduates Club, 22 November 1974.
7pp., with ms. corrections.
- E.55 'Insect Flight Muscle', British Biophysical Society, 18 December 1974.
3pp., with ms. corrections.
- E.56 'Insect Flight', Dar es Salaam, January 1975.
3pp., with ms. corrections. Also included here are brief correspondence and background material re Dar es Salaam Zoology Department.
- E.57-E.59 Lectures given during visit to Poland, 1-9 October 1975.
Pringle was the guest of the Polish Academy of Sciences. For related material see H.8.
- E.57 'The Mechanical Properties of insect fibrillar muscle and their biochemical basis', Warsaw, dated September 1975.
8pp., with ms. corrections.
- E.58 'Recent researches on insect fibrillar flight muscle', Torun, dated September 1975.
- E.59 'Recent research on insect flight', Cracow, October 1975.
7pp., with ms. corrections; list of references.
- E.60 'Third World Science', for 'History of Science Group', 5 May 1976.
19pp. A further copy of this talk is included at F.6.
- E.61, E.62 'The flight of the bee', Gooding Memorial Lecture of the Central Association of Bee-Keepers, 5 November 1976, published as Bibliog. 1976c, and republished in 1982 in a volume of the Association's lectures.
- E.61 11pp. photocopy.
- E.62 Correspondence, May 1975-July 1982, including invitation to give lecture and re its publication.

Lectures and publications

E.63-E.76 Lectures given at the University of Guelph, Ontario, 10 September-16 October 1978.

Pringle, who had visited Guelph in 1970 (see E.76), accepted the offer of a Visiting Professorship of a month's duration. The surviving material consists largely of drafts for lectures and seminars, and background material, indicating the considerable amount of teaching Pringle undertook. There is also correspondence, 1977, 1978, which includes the invitation, discussions re topics for lectures, both for individual departments and the university as a whole, requests by Pringle for information about 'human sciences' courses in British universities in relation to his lectures at Guelph, and re travelling and financial arrangements.

The Pringles spent a month's holiday in British Columbia before the visit to Guelph, and also visited the Environmental Sciences Centre (Kananaskis), University of Calgary. E.73 includes correspondence re a proposal to put Pringle's name forward as a Visiting Killam Scholar at Calgary after his retirement in 1979.

Lectures and teaching

E.63 'Comparative Physiology of Muscle', for seminar at the Department of Human Kinetics, 18 September 1978.

6pp., with ms. corrections; transparencies.

E.64 'A Statement in Human Sciences; concepts in biology', lecture at the Department of Human Kinetics, 22 September 1978.

5pp., with ms. corrections; transparencies.

E.65 'Is there a Science of Man and Society?', lecture, 2 October 1978, probably open to the whole university (see letter of 13 March 1978).

13pp., with ms. corrections and photocopied additions to the text; booklet on the Human Sciences degree course at the University of Oxford, probably used as background material.

E.66 'The Mechanics of Insect Flight', for seminar at the Department of Physics, 10 October 1978.

4pp., with ms. corrections; transparencies.

Continued

Lectures and publications

- E.77 'Insect Flight Muscle', Rockefeller University, 21 November 1978.
6pp., with ms. corrections; correspondence October-November 1978.
- E.78 'A Review of Arthropod Muscle', seminar at the Society of Experimental Biology conference, Belfast, 6 July 1979.
5pp., with ms. corrections; abstract; conference programme annotated by Pringle.
- E.79-E.83 Lectures given at the University of Liège, October, November 1979.
Pringle was appointed 'Titulaire de la Chaire d'Actualités Scientifiques', 1979-80, and proposed to give a course of 12 lectures on 'Contractile tissues', with one general lecture in French 'Le vol des insectes' later published as Bibliog. 1979. The surviving material consists chiefly of drafts of lectures, a little background material, and some correspondence.
- E.79 'Liège lectures 1979'.
Binder so inscribed, containing drafts with ms. corrections of 'Le vol des insectes', and lectures 1, 2, 4-10 of a course entitled 'Muscle and other contractile tissue', with synopsis, ms. notes, lists of references, illustrations, etc. For lecture 3 see E.80. The lecture on 'Le vol des insectes' appears to have been written directly in French on the typewriter by Pringle.
- E.80 'Lecture 3. Insect fibrillar muscle. X-ray and optical diffraction'. This lecture was removed from the rest of the course (see E.79) and was used by Pringle during his visit to Australia in 1980 (H.13, H.14).
3pp., with ms. corrections.
- E.81 'Lecture in Liège, October 1979. French summaries'.
Contents of a folder so inscribed.
Extensive photocopy of French summaries of Pringle's lectures and of related material.
- E.82 Correspondence, June 1979-February 1980, re programme of lectures, etc.
- E.83 Background material and note on fossils collected by Pringle in Belgium.

Lectures and publications

- E.84 'The Songs of Cicadas', Singapore Natural History Society, December 1979.
4pp., with ms. corrections; list of references.
- E.85 'Recent work on insect flight muscle', La Jolla, December 1979.
7pp., with ms. corrections.
- E.86-E.89 'The evolution of fibrillar muscle in insects', 10th George Bidder Lecture, given at the Society of Experimental Biology conference, Oxford, 17 December 1980, published as Bibliog. 1981d.
- E.86 8pp., with ms. corrections.
- E.87 11p. photocopy of draft with lists of references and legends for figures.
- E.88 Material for illustrations.
- E.89 Correspondence, December 1980-June 1981.
- E.90 'Insect muscle and the problem of contractility', c.1980.
4pp. photocopy, with ms. corrections; 1p. ms. notes; transparency.

Undated lectures

- E.91, E.92 Two lectures for the Cambridge University Natural Science Club, perhaps 1930s.
- E.91 'The Basis of Pharmacology', 4pp.
- E.92 'Theories of Taste', 3pp.
- E.93 Untitled slide lecture, on 'stimulation of the C.N.S. with direct current', with a ms. note 'British Assoc. Brighton', 3pp.

Lectures and publications

- E.94 Untitled talk to the Ratio Club; a speculative paper on geochemical and equilibrium conditions for evolution.
- Heavily-corrected draft with, at end, 2pp. ms. notes of contributions to discussion made by other members of the club. Names include W. Ross Ashby, J.A.V. Bates (secretary), T. Gold, D. Mackay, C.F.A. Pantin, A.M. Turing.
- The Ratio Club, an informal cybernetics discussion group meeting in London, had been started in July 1949, following a talk by K. Lorenz at Cambridge on animal behaviour. Gold and Pringle were founder members and Pringle put forward Turing's name at the first meeting. Turing gave a talk on December 1950 on 'Educating a digital computer' and in February 1952 another on morphogenesis, of which A.V. Hodges (Alan Turing: the Enigma, 1983, p.466) writes that 'John Pringle took up the idea as a basis for his discussion of the origin of life in the primordial chemical soup, in a lecture later in 1952'. The 1952 lecture was published as Bibliog. 1953a.
- E.95 'The Capacity for Flight in Insects'
- 7pp., with ms. corrections, with note that pp.5 and 6 'removed for Guelph lecture - Insect Flight. 25.vii.78'. See E.63-E.76 for lectures given at University of Guelph.
- E.96 'Entropy and problem of evolution'.
- 12pp. ms.
- E.97 'Balance'
- 6pp. ms.

Lectures and publications

PUBLICATIONS

- E.98-E.100 'Insect Flight' (Bibliog. 1957c).
- E.98 'The control of movement in the air'.
2 versions for chapter 6 of book, one with ms. note 'not finally included in Insect Flight'.
- E.99 Correspondence, 1961-68, chiefly Pringle's queries re publication of Russian edition, made without his prior consent.
- E.100 Correspondence, 1971-77, re second edition of the book. Pringle eventually decided not to proceed with it.
- E.101 'The physiology of fibrillar muscle', 1959.
Paper given at XVth International Congress of Zoology, London, 16-23 July 1958, and published in the Proceedings, London 1959, pp.464-65. Pringle was Chairman of the session on 'Comparative Physiology of Striated Muscle' at which the paper was presented. (Not listed in Bibliog.)
Proof only.
- 'The flight of the bumble bee (Bibliog. 1961d).
17pp. typescript (carbon), with ms. corrections; illustrations and legends.
- E.102 'Physiologie du muscle de vol chez les insectes' (Bibliog. 1963d).
Brief correspondence only, April 1963, re Pringle's French translation of his lecture, prepared for publication.
- 'Input and output elements of behavioural models', contribution to Neural theory and modelling (Bibliog. 1964c).
Brief correspondence only.
- E.103 'Acoustical behaviour of Hemiptera', with D. Leston (Bibliog. 1964a).
Correspondence only, 1959-68, chiefly with publishers and editor of Acoustic Behaviour of Animals, to which Pringle and Leston had contributed the chapter, re publication and use of royalties to fund scholarships for young research workers. Eventually, the royalties were divided among the authors.

Lectures and publications

- E.104 'Sound in Animals' and 'Insect Flight', 2 articles for Chambers's Encyclopaedia, 1964.
3pp. and 2pp. carbon copies of drafts with ms. corrections; brief correspondence, 1964.
- E.105 'Flight (natural)', article for Encyclopaedia Britannica, c.1964.
Proofs; correspondence, 1967, re revision of article.
- E.106 'Essays on physiological evolution' (Bibliog. 1965f).
Pringle was the editor of the English edition of the book published in Moscow in 1961 in memory of K.S. Koshtoyants, and contributed an essay on 'The evolution of muscle'.
Correspondence only, 1962-70, including request to Pringle to act as 'Honorary Editor'.
- E.107 'The Contraction of Muscles', article for Pears Cyclopaedia, 1967.
6pp. carbon copy of draft with ms. corrections; correspondence, 1966, 1967, including invitation to write article.
- E.108, E.109 'Comparative physiology of the flight motor' (Bibliog. 1968c).
E.108 36pp. with ms. corrections.
E.109 Tables of figures, graphs, etc.
- E.110 'Anomalous electrical conductivity with relaxed myofibrils', with M. Ogata, 1969.
This is a later version of ARC Internal Memorandum no.35, September 1969 (C.50), prepared for publication but not listed in Bibliog.
12pp., with ms. corrections by both authors; list of references; abstract; title page.
- E.111 'Extraction of rabbit and insect myofibrils at low ionic strength', with D. Busby, c.1970.
11pp. text and references prepared for publication but not listed in Bibliog.

Lectures and publications

- E.112-E.114 'Insect Flight' (Bibliog. 1975a)
- E.112 Text as published, with ms. corrections.
- E.113 18pp. carbon copy of draft (different from published text).
- E.114 Correspondence, 1976-78, with new publishers of Oxford Biology Reader Series, including photocopy of Pringle's revised draft for second edition.
- E.115 'The availability of insect fibrillar muscle', c.1976
6pp. photocopy with ms. corrections, lists of references and legends for figures, probably for Bibliog. 1977b; 1p. ms. notes.
- E.116, E.117 'Flight of the Honey Bee', article for International Encyclopedia of Beekeeping, 1980.
- E.116 Miscellaneous drafts and material for illustrations.
- E.117 Editorial correspondence, 1979-81.
- E.118-E.120 'Science of a pest: research on the African armyworm at the International Centre of Insect Physiology and Ecology, Nairobi' (Bibliog. 1980).
This was Pringle's contribution to a presentation volume, Insect biology in the future, for Sir Vincent Wigglesworth on the occasion of his eightieth birthday.
- E.118 Text; references; illustrations.
- E.119 Correspondence, 1979. Includes invitation to contribute and list of contributors.
- E.120 Correspondence, 1980. Includes Pringle's requests for permission to reproduce diagrams, etc., and an account of the presentation to Wigglesworth.

Lectures and publications

E.121-E.123

'A review of arthropod muscle' (Bibliog. 1981a).

This was Pringle's contribution to Development and specialisation of muscle, one of 'Seminar series' of the Society for Experimental Biology.

E.121 14pp. photocopy, with lists of references and illustrations.

E.122 Correspondence, 1979. Includes Pringle's requests to reproduce material.

E.123 Correspondence, 1980, 1981. Includes Pringle's complaints about his proofs and their editing.

E.124-E.127

'Le vol des insectes' (Bibliog. 1982a).

E.124 Photocopies of 2 different typescript drafts, with ms. corrections, 31pp. and 26pp., both in French.

E.125 5pp. 'Outline' and 7pp. 'Supplement' to article; material for illustrations.

E.126 'The Flight Muscle of Insects', possibly an early version of the article.

16pp. photocopy of typescript draft.

E.127 Correspondence, 1978-81, including initial request for article and Pringle's corrections to French version.

Lectures and publications

BOOK REVIEWS

For Pringle's reviews for Nature, see E.143.

E.128 Donald R. Griffin, Echoes of Bats and Men, 1959.

Draft only.

Morton Beckner, The Biological Way of Thought, 1959.

Draft only.

E.129 J.W.L. Beament, J.E. Treherne and V.B. Wigglesworth (editors),
Advances in Insect Physiology, Volume 1, for Science Progress,
1963.

Pringle also reviewed this book for Nature.

Draft; proof.

E.130 R.F. Chapman, The insects - structure and function, for Science Progress, 1969.

Proof only.

E.131 E. Wilson et al, Life/cells, organisms, populations, n.d.

Draft only.

Lectures and publications

CORRESPONDENCE WITH PUBLISHERS AND EDITORS

- E.132 Academic Press, 1961, 1962
Correspondence re Pringle's chapter in The physiology of insects (listed as Bibliog. 1965b).
- B.P.C. Publishing Limited, 1968, 1969
Correspondence re reproduction of Pringle's diagram illustrating the song pattern of cicadas, including Pringle's complaints of inaccuracy in the drawings made from it.
- E.133, E.134 Cambridge University Press, 1968-81
- E.133 1968, 1972. Correspondence, 1968, re proposed book The Evolution of Physiological Systems, which Pringle declined to write and, 1972, re editorship of Cambridge Monographs in Experimental Biology, which Pringle accepted.
- E.134 1978, 1981. Comments on proposed publications.
- E.135 Brief correspondence with R. Chauvin, November 1963, re the Traité de Biologie de l'Abeille; Pringle had undertaken to write the chapters on locomotion but withdrew.
- E.136-E.139 Journal of Muscle Research and Cell Motility, 1979-82
This was a new journal edited by R.T. Tregear and C.C. Ashley; Pringle was a member of the editorial board. The first issue was published in February 1980 and a copy is held at E.137.
- E.136 1979. Includes list of proposed contents of first issue.
- E.137 1980 January-March. Includes minutes of editorial meeting, 17 January, copy of first issue and Pringle's report on paper submitted.
- E.138 1980 April-December. Includes agenda and minutes of editorial meeting, 18 April, and some publicity material.
- E.139 1981, 1982. Includes book review by Pringle, agenda and minutes of editorial meeting, 11 December 1981, and arrangements for meeting at the Royal Society, 24 March 1982.

SECTION F SCIENCE IN THE THIRD WORLD F.1 - F.262

INTRODUCTION TO SECTION F

F.1 - F.239A International Centre for Insect Physiology and Ecology
(ICIPE)

F.240-F.262 Serengeti Research Institute (SRI)

The title of this section is that used by V.B. Wigglesworth in his Memoir of Pringle (Biographical Memoirs of Fellows of the Royal Society, 29, 1983, 535-537).

Pringle spoke and wrote about his involvement in science in the Third World on a number of occasions, e.g. to a history of science group (probably at Oxford) in 1976 (E.160, F.6), during his stay as visiting professor at the University of Guelph, Ontario, in 1978 (E.71) and in his contribution to Insect Biology of the Future (1980), a volume prepared as an eightieth birthday tribute to V.B. Wigglesworth (E.121-E.123, F.204A). These accounts, and the Memoir, have been drawn upon here.

Although Pringle had visited the tropics in connection with his own research - particularly his visits to Ceylon (Sri Lanka) in 1953 and later to Trinidad - he credited P.M.S. Blackett with arousing his interest in Third World science, through the 1955 Presidential Address to the British Association in Dublin and then in 1967 when Pringle attended the conference of Commonwealth scientists which Blackett organised. Pringle had been especially interested by a contribution to the conference by Professor Goma of the University of Zambia on the difficulties of pursuing scientific research in developing countries, and it was with Africa, and particularly East Africa, that Pringle became increasingly involved.

Pringle's first contact with science in East Africa was The Serengeti Research Institute, Tanzania. An association between the SRI and N. Tinbergen had led to the Oxford University Department of Zoology becoming ex officio a member of the Scientific Research Council and Pringle represented the Department at a meeting of the Council in January 1970. Subsequent developments at the SRI are outlined in Pringle's 1976 talk and a small amount of correspondence, committee papers and reports illustrative of this connection is listed at F.240-F.262.

Continued

Science in the Third World

The most important of Pringle's East African involvements, however, was with the International Centre for Insect Physiology and Ecology at Nairobi and ICIPE material represents by far the greater part of the documentation of Third World science in the collection. In his accounts, Pringle pays tribute to the independent and simultaneous initiatives in 1969 of C. Djerassi of Stanford University and T.R. Odhiambo of the University of Nairobi which led to the setting up of an international centre for insect research at Nairobi with Odhiambo as its first Director. Pringle, who had been enthusiastically in favour of the project from the outset, joined the Governing Board in 1972, becoming Chairman the next year - a position he retained until 1978.

One of the distinguishing features of the organisation of research at ICIPE in its early years was the appointment of honorary directors of research. These directors were usually professors of biology or chemistry in western countries charged with directing parts of the research programme; they undertook to visit Kenya once or twice a year. Pringle was asked to become a director of research and assumed responsibility for work on the African armyworm (Spodoptera exempta), a plague insect like the locust. A project grant was provided by the British Ministry of Overseas Development for equipment and salaries and research started in 1973 and continued under Pringle's direction for six years, investigating such matters as flight capability and orientation, reproductive behaviour and population diversity. In his review of armyworm research in Insect Biology in the Future, Pringle concluded by noting that the research work was 'an example of the interesting scientific problems that arise from the study of an insect pest'. Pringle maintained an interest in ICIPE affairs until his final illness.

Science in the Third World

F.1-F.239 INTERNATIONAL CENTRE FOR INSECT PHYSIOLOGY AND
ECOLOGY (ICIPE)

F.1 -F.7	Early History
F.8 -F.158	Organisation and Committees
F.159-F.234	Research Projects
F.235-F.239	Miscellaneous

EARLY HISTORY

F.1-F.7

'ICIPE: Early History'

Contents of a folder so inscribed.

F.1 Thomas R. Odhiambo, 'East Africa: Science for Development', Science, November 1967.

Photocopy of published article.

F.2 Photocopies of letters from V.B. Wigglesworth and J.S. Kennedy to the Royal Society, July 1969, re proposal for an international centre for insect research in East Africa.

F.3 Report to the Council of the Royal Society on ICIPE by V.B. Wigglesworth and R.W.J. Keay, February 1970, and report by Wigglesworth (the Royal Society's representative) on a meeting of the International Committee for ICIPE held 21 September 1970.

F.4 Memorandum and Articles of Association of ICIPE, incorporated 7 April 1970.

F.5 'East African "Center of Excellence": The International Centre of Insect Physiology and Ecology', American Academy of Arts and Sciences Bulletin, March 1972.

F.6 'Third World Science', 5 May 1976.

19pp. typescript of talk by Pringle which he describes in an introductory paragraph as a personal narrative of his involvement in three East African scientific organisations. A further copy of this talk is included at E.60 where it is described as for 'History of Science Group'.

Continued

Science in the Third World

F.7 Pringle's ms. and typescript notes (July 1979 or later)
re early history of ICIPE.

ORGANISATIONS AND COMMITTEES

F.8 -F.12	Annual General Meetings
F.13 -F.42	Governing Board Meetings
F.43 -F.56	Executive Committee of the Governing Board
F.57 -F.72	Programme Committee of the Governing Board
F.73	Nominating Committee of the Governing Board
F.74 -F.98	Annual Research Conferences
F.99 -F.117	Research and Training Council
F.118-F.121	Strategic Work Plan
F.122-F.147	International Committee of ICIPE/ICIPE Foundation
F.148-F.158	British National Committee for ICIPE

ANNUAL GENERAL MEETINGS

F.8	Minutes of first AGM, Nairobi, 28 May 1971. Minutes of fourth AGM, Nairobi, 22 April 1974 (2 versions) Minutes of fifth AGM, Nairobi, 10 June 1975.
F.9	Statement explaining background of extraordinary AGM and minutes of the meeting held at Nairobi, 11 January 1977. Minutes of seventh AGM, 14 June 1977. Agenda and minutes of eighth AGM, Nairobi, 12 June 1978.
F.10	Agenda and minutes of ninth AGM, Nairobi, 12 June 1979; also Pringle's 4pp. 'Report on ICIPE meetings June 1979' (perhaps for Royal Society).

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F.11 Agenda and minutes (lack first page) of tenth AGM, Nairobi,
29 March 1980.

Minutes of eleventh AGM, Nairobi, 20 March 1981.

F.12 Minutes of extraordinary AGM, Nairobi, 31 March 1982.

Agenda and minutes of twelfth AGM, 29 April 1982.

GOVERNING BOARD MEETINGS

F.13 Minutes of the 29th meeting, Washington D.C., 17-19 August
1976.

Minutes of the 30th meeting, Nairobi, 25 and 26 March 1977.

F.14 Minutes of the 31st meeting, Nairobi, 13 June 1977.

F.15 Extracts of minutes of 33rd meeting, Nairobi, 6 and 7 January 1978.

F.16 Minutes of 35th meeting, Nairobi, 14-19 January 1979.

F.17-F.20 Agenda, committee papers and minutes of 36th meeting, Nairobi,
9 and 11 June 1979.

4 folders.

F.21 Agenda and minutes of 37th meeting, Nairobi, 12 June 1979.

F.22-F.28 Agenda, committee papers and minutes of 38th meeting, Nairobi,
25-28 March 1980.

7 folders.

F.29 Agenda, committee paper and minutes of 39th meeting, Nairobi,
29 March 1980.

F.30 Agendas and minutes of 40th meeting, Nairobi, 20 March 1981.

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- F.31 Agenda, committee paper and minutes of 41st meeting, Nairobi,
20 March 1981.
- F.32-F.40 Miscellaneous governing board papers unattributed as to meeting.
- | | | | |
|------|----------|------|----------|
| F.32 | 1978 (1) | F.36 | 1980 (2) |
| F.33 | 1978 (2) | F.37 | 1980 (3) |
| F.34 | 1979 | F.38 | 1980 (4) |
| F.35 | 1980 (1) | F.39 | 1981 (1) |
| | F.40 | | 1981 (2) |
- F.41, F.42 Correspondence, 1979-81
- F.41 1979 November; 1980 January-August
- F.42 1980 September, December; 1981 (one letter only)

EXECUTIVE COMMITTEE OF THE GOVERNING BOARD

- F.43-F.45 Agenda, committee papers and minutes of 7th meeting, Washington
D.C., 29 and 30 October 1979.
3 folders.
- F.46-F.48 Agenda, committee papers and minutes of 8th meeting, Nairobi,
24 March 1980.
3 folders.
- F.49-F.51 Agenda, committee papers and minutes of 9th meeting, Nairobi,
16 and 17 June 1980.
3 folders.

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- F.52-F.54 Committee papers and minutes of 10th meeting, Manila, 1 and 2 November 1980.
3 folders.
- F.55, F.56 Agenda, committee papers and minutes of 11th meeting, Nairobi, 18 March 1981.
2 folders.

PROGRAMME COMMITTEE OF THE GOVERNING BOARD

- F.57 Minutes of 1st meeting, Nairobi, 12 and 13 June 1979; Pringle's ms. notes (3pp.).
- F.58 Minutes of 2nd meeting, Nairobi, 11-13 September 1979.
- F.59 'Research achievements in 1979 and work plans for 1980-81' (Programme Committee Paper GBP/283/79).
- F.60-F.62 Agenda, committee papers and minutes of 3rd meeting, Nairobi, 24-29 March 1980.
3 folders.
- F.63-F.66 Agenda, committee papers and minutes of 4th meeting, Nairobi, 13 and 14 June 1980.
4 folders.
- F.67 'Research review of the medical vectors research programme'.
Report submitted to the Director and circulated to members of the committee, 20 August 1980.
- F.68-F.71 Agenda, committee papers and minutes of 5th meeting, Nairobi, 16 March 1981.
4 folders.
- F.72 Minutes of 6th meeting, Nairobi, 12 and 13 June 1981.

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NOMINATING COMMITTEE OF THE GOVERNING BOARD

F.73 Agenda and minutes of 2nd meeting of the committee, Nairobi,
18 March 1981.

ANNUAL RESEARCH CONFERENCES

F.74-F.78 Agenda, minutes, correspondence, etc. re 3rd annual conference
of directors of research, Nairobi, 19 and 20 July 1973.
5 folders.

F.79 Agenda, minutes, etc. re 4th annual conference of directors of
research, Nairobi, 15-17 April 1974.

F.80-F.83 Agendas, list of participants, correspondence, etc. re annual
research conference, Nairobi, June 1975. F.83 includes 17pp.
typescript 'Report on a visit to ICIPE', 28 September-12 October
1974, by E.A. Newsholme and programme and list of participants
for Armyworm study workshop, January 1975.
4 folders.

F.84-F.87 Programmes, list of participants, correspondence, etc. re annual
research conference, Nairobi, June 1976.
4 folders.

F.88, F.89 Programmes, abstracts, etc. for annual research conference, Nairobi,
June 1977.
2 folders.

F.90 -F.92 Programme, abstracts, ms. notes re annual research conference,
Nairobi, June 1978.
3 folders.

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- F.93, F.94 Programme, abstracts, correspondence, etc. re annual research conference, Nairobi, June 1979.
2 folders.
- F.95 Programme, abstracts, Pringle's ms. notes re annual research conference, Nairobi, June 1980.
- F.96 Programme only re annual research conference, Nairobi, June 1981.
- F.97, F.98 Research directors' circular letters, 1973-78.
2 folders.

RESEARCH AND TRAINING COUNCIL (RTC)

- F.99-F.113 Contents of a Foreign and Commonwealth Office Overseas Development Administration Centre for Overseas Pest Research file entitled '8. Committees, Boards Outside COPR - ODM. 6. I.C.I.P.E. 11. Research & Training Council Affairs (Apart From Recruitment)'. The contents of this very bulky file have been subdivided for ease of reference. The original file cover is preserved at F.113.
- F.99 1977 February-June. Includes terms of reference and agenda and minutes of first meeting, 8 and 11 June.
- F.100 1977 July (1). Includes minutes of 5th annual meeting of the UNDP [United Nations Development Programme]/ICIPE Policy Advisory Committee, 8 and 10 June.
- F.101 1977 July (2).
- F.102 1977 July (3). Includes correspondence re proposed training course on insect development.
- F.103 1977 August. Includes correspondence and papers re staff appointments.
- F.104 1977 September. Includes correspondence re staff appointments.

Continued

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- F.105 1977 October. Includes minutes of 1st meeting of RTC executive committee, 27 October and papers re staff appointments.
- F.106 1977 November, December. Includes 'informal report' by W.A. Sands on RTC executive committee meeting with annotated agenda; also agenda for 2nd meeting of executive committee to be held 9 January 1978.
- F.107 1978 January. Includes W.A. Sands's 'informal report' on visit to ICIPE, 4-19 January, and minutes of 2nd meeting of RTC executive committee.
- F.108 1978 February.
- F.109 1978 March. Includes W.A. Sands's paper on 'The role of visiting directors of research and programme leaders at the ICIPE' with comments by T.R. Odhiambo, agenda and minutes re 3rd meeting of RTC executive committee, 29 March.
- F.110 1978 April. Correspondence arising from 3rd RTC executive committee meeting; agenda for 2nd meeting of RTC to be held 7 June; papers on appointments procedures at ICIPE.
- F.111 1978 May.
- F.112 1978 June. Annotated agenda for 7 June meeting of RTC; annotated governing board paper 'Leading facts on appointments of scientific staff at the ICIPE research centre during the period January 1976 up to 31st May 1978 inclusive'.
- F.113 Original COPR file cover.
- F.114 Contents of a Foreign and Commonwealth Office Overseas Development Administration Centre for Overseas Pest Research file entitled '8. Committees, Boards Outside COPR - ODM. 6. I.C.I.P.E. 13. POST-RTC APPOINTMENTS - CVs, CORRESPONDENCE'.
- F.115-F.117 Contents of Pringle's RTC files, 1978-79.
- F.115 1978 April, May
- F.116 1978 June, July, September. Includes minutes of 2nd meeting of RTC, 4th meeting of RTC Executive Committee and 6th annual meeting of the Policy Advisory Committee.
- F.117 1979 January - June. Includes minutes of 5th and 6th meetings of RTC Executive Committee.

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STRATEGIC WORK PLAN

- F.118-F.120 Correspondence 1978-79.
- F.118 1978 July, August and November.
- F.119 1979 January.
- F.120 1979 February-April.
- F.121 'ICIFE Strategic Research Plans: An Outline of Long-Term Objectives (1979-1985) and Work Plans for 1979 and 1980', 5 February 1979 (Bound).

INTERNATIONAL COMMITTEE OF ICIFE/ICIFE FOUNDATION

At a meeting of the International Committee in Washington D.C., August 1976, seven national academies, including the National Academy of Sciences and the Royal Society, resolved to establish an international foundation to support ICIFE. The Foundation defined its objectives as (1) acting as a link between the international scientific community and ICIFE; (2) giving when requested advice on scientific activity and training objectives; (3) fund raising. A General Assembly which met once a year served as the decision-making body of the Foundation while a Council of three members acted as the executive body.

- F.122 1976 June-August. Correspondence re arrangements for Washington meeting, etc.; lists of those attending and of directors of research.
- F.123 1976 December. Includes minutes of constitutive meeting of the General Assembly of the ICIFE Foundation, Washington, 19 August, statutes of the Foundation and agenda for meeting of the Council, London, 17 December.
- F.124 1977 January-April. Includes material re membership of the Governing Board.

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- F.125 1977 May-August. Includes correspondence re arrangements for First General Assembly of the ICIPE Foundation, Oslo, 11 and 12 September.
- F.126 1977 September (1). Correspondence and papers re Oslo General Assembly.
- F.127 1977 September (2). Miscellaneous papers found with Oslo material.
- F.128 1978 January-April. Includes minutes of Council meetings and 2pp. statement of ICIPE Foundation policy.
- F.129 1978 September (1). Agenda and papers for Second General Assembly, Stockholm, 24 and 25 September.
- F.130 1978 September (2). Includes minutes of Stockholm General Assembly and Council meetings.
- F.131 1978 October-December. Includes summary of Pringle's talk on ICIPE research given at Stockholm General Assembly.
- F.132 1979 March, April. Includes Pringle's ms. 'Notes Stockholm April 1979'.
- F.133 1979 May, June. Includes minutes of Council meeting, Stockholm, 26 April.
- F.134 1979 September. Agenda and papers for Third General Assembly, Amsterdam, 27 and 28 September.
- F.135 1979 October-December. Includes minutes of Amsterdam meeting and Pringle's draft report for Royal Society.
- F.136 1980 February, March. Includes agenda for Council meeting, London, 21 March, and statement on ICIPE Foundation Fellowship Programme.

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- F.137 1980 April. Includes report by M.G. Bulmer on the proposed establishment of a biometric unit at ICIPE.
- F.138 1980 September (1). Agenda and papers for Fourth General Assembly, Zürich, 14 and 15 September 1980.
- F.139 1980 September (2). Includes minutes of Royal Society 'Ad Hoc Briefing Group for the I.C.I.P.E. Foundation Assembly, Zürich, September 1980' and minutes of Zürich Assembly.
- F.140 1980 October. Includes bibliography of ICIPE research 1972-80 and statement on future of the Foundation.
- F.141 1980 November. Includes correspondence and papers on future of the Foundation. Pringle explains in a letter of 24 November that he has to 'fade out of' ICIPE affairs because of an incurable medical condition.
- F.142 1980 December.
- F.143 1981 January-May. Includes material re ICIPE Foundation Fellowship Programme and ICIPE's application for membership of the CGIAR [Consultative Group on International Agricultural Research].
- F.144 1981 September. Agenda and papers for Fifth General Assembly, Paris, 28 and 29 September.
- F.145 1981 September-December. Includes material re Foundation Council meeting, London, 14 December.
- F.146 1982 January-May. Includes minutes of Fifth General Assembly and documents for Council meeting, London, 16 April.
- F.147 1982 June. Agenda and papers for the Sixth General Assembly, Vienna, 29 and 30 June.

Science in the Third World

BRITISH NATIONAL COMMITTEE FOR ICIPE

- F.148 1978 September. Agenda and papers for meeting to be held at Royal Society, 23 October; report on the ICIPE Visiting Group on Administration and Finance.
- F.149 1979 March, May. Includes agenda and papers for meeting to be held at Royal Society, 21 March.
- F.150 1979 June-August. Includes agenda and papers for meeting to be held at Royal Society, 22 June.
- F.151 1979 November, December. Agenda, papers and minutes of meeting, Royal Society, 15 November. The meeting recommended to Council of the Royal Society that the British National Committee should be dissolved and that ad hoc arrangements be made in cooperation with the Centre for Overseas Pest Research for the briefing of Royal Society delegates to future meetings of the ICIPE Foundation.
- F.152 1980 February-June. Includes minutes of meeting of Foundation Council, Royal Society, 21 March.
- F.153 1980 September. Documents re meeting of ad hoc Briefing Group for the ICIPE Foundation, 4 September.
- F.154 1981 June, August. Documents re meeting of ad hoc Group to be held 8 September.
- F.155 1981 September. Includes note of 8 September meeting.
- F.156 1982 May-July. Includes note of ad hoc meeting, 23 June.

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INTER-AGENCY CONFERENCES ON THE DEVELOPMENT OF ICIPE

- F.157 Paper on the long-term development and support of ICIPE
for inter-agency conference, Nairobi, 26 and 27 July 1977.
- F.158 Draft agenda and supporting paper for fourth inter-agency con-
ference, Manila, 1980.

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RESEARCH PROJECTS

F.159-F.161	Acoustics
F.161A	Aestivation
F.162-F.204A	Armyworm
F.205	Crop Borers
F.206-F.212	Electrophysiology
F.213	Fine Structure
F.214	Insect/Hostplant relations
F.215, F.216	Isolation Mechanisms
F.217, F.218	Mosquitos
F.219-F.222	Orientation
F.223	Salivary Gland Physiology
F.224	Sorghum Shoot Fly
F.225-F.234	Termites

ACOUSTICS

1971-76

F.159-F.161	Correspondence and papers <u>re</u> project for 'Studies on the acoustic component of the communication in the tsetse fly'. Principally correspondence between Pringle and Research Director, A.R. Møller (in Sweden) and copies of correspondence between Møller and Nairobi.
F.159	1971-73. Includes grant application (photocopy).
F.160	1974
F.161	1975-76 and n.d.

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AESTIVATION

1973-74

- F.161A Copies of correspondence between J. de Wilde and Nairobi; exchange between de Wilde and Pringle. August 1973-September 1974.

ARMYWORM

- | | |
|--------------|---------------------|
| F.162-F.194 | Personnel |
| F.195, F.196 | Funding |
| F.197-F.204 | Forecasting Service |
| F.204A | Miscellaneous |

See also under ORIENTATION.

Personnel

- | | | |
|--------------|--|---|
| F.162, F.163 | Clark, J.V. | 1978-81 |
| | Clark worked in the Sensory Physiology Laboratory at ICIPE where he undertook research on the sensory and behavioural basis of the selectivity of larval feeding of the armyworm. | |
| | F.162 | 1978-80. Includes Clark's annual report for 1978. |
| | F.163 | 1981. Includes Clark's final report on his work at ICIPE. |
| F.164 | den Boer, M. | 1977, 1979 |
| | 1977, 1979. Typescript of untitled paper on armyworm research; brief unrelated correspondence. | |
| F.165-F.174 | Khasimuddin, S. | 1974-82 |
| | Khasimuddin worked at ICIPE under Pringle's guidance from December 1973. He investigated two main aspects of the biology of the armyworm: mating behaviour and the importance of resident populations. | |
| | F.165 | 1974 February-August. Includes report on mating behaviour of the armyworm and bioassays for the female sex pheromone. |

Continued

Science in the Third World

- F.166 1974 October, November and n.d. Includes report on armyworm field research (2 versions) and report on mating behaviour (some differences from version at F.165).
- F.167 1975 January-September. Includes statement of procedure to be followed in making observations on the armyworm populations.
- F.168 1975 October-December. Includes report from armyworm group, 28 October (transcript from tape).
- F.169 1976.
- F.170 1977 January-May. Includes references and recommendations.
- F.171 1977 July-December. Includes material re research equipment, outline of future armyworm research and report on ecological studies on the armyworm.
- F.172 1978. Includes outline of research programme.
- F.173 1979 February-August. Includes Khasimuddin's report on conference attended at Raleigh, North Carolina. The theme of the conference was the movement of selected species of lepidoptera in the Southeastern USA.
- F.174 1980, 1982. Includes list of Khasimuddin's publications at ICIPE.
- F.175-F.181 Ma, W-C. 1972-80
Ma, a scientist of Chinese descent but Dutch nationality, worked at ICIPE on the sensory physiology of the armyworm caterpillar, 1972-75.
- F.175 1972-73. Includes curriculum vitae and progress report, October 1973.
- F.176 1974. Includes internal ICIPE memos on armyworm research.
- F.177 1975 February-June. Includes references and recommendations and transcript of tape dated 14 May.
- F.178 1975 July-December. Includes material re appointments as ARC visiting scientist in Oxford and research fellow, University of Queensland.

Continued

Science in the Third World

F.179 1976 January-June. Includes correspondence re attendance at annual research conference in Nairobi and patent application.

F.180 1976 July-November. Includes continuing correspondence re patent application.

F.181 1977-80.

F.182-F.184

Otindo, B.L. 1975-78

Otindo was an East African scientist working on the armyworm programme. Much of the material relates to proposals for post-graduate training in England and Kenya.

F.182 1975 June-September.

F.183 1975 October, November.

F.184 1976, 1978.

F.185-F.187

Persson, B.I.P. 1977, 1978

Persson was a Swedish scientist who worked at ICIPE on the army-worm population dynamics programme.

F.185 1977 February-May. Persson's appointment at ICIPE.

F.186 1977 July-December. Correspondence and papers re research plans and budget.

F.187 1978. Includes research report and related correspondence.

F.188-F.194

Rose, D.J.W. 1975-80

Rose, a zoologist at the University of Rhodesia, was appointed Honorary Programme Leader (African Armyworm Programme) from 1 July 1977.

F.188 1975. Includes list of participants at Armyworm study workshop, January.

F.189 1976. Principally re arrangements for Rose to attend annual research conference.

Continued

Science in the Third World

F.190 1977. Includes letter of appointment as programme leader and draft of research flow chart for armyworm investigations with the names of those involved in each investigation.

F.191 1978 January-June. Includes 5pp. typescript 'Suggestions for an outbreak strategy', ICIPE, 14 April.

F.192 1978 July-December. Includes transcript of tape received from Rose, 6 October and report on armyworm research from 1972 with staff and publications lists.

F.193 1979. Includes armyworm research work plan for 1980-81.

F.194 1980.

Funding

F.195 Correspondence re possible EEC funding, February-April 1980.

F.196 Correspondence re application to Overseas Development Administration, August 1980.

Forecasting service

F.197-F.204 A sequence of weekly forecasts for Kenya and East Africa.

F.197 1979 (2 forecasts only) F.201 1981 January-April

F.198 1980 January-April F.202 1981 May-August, November

F.199 1980 May-August F.203 1982 January-April

F.200 1980 October-December F.204 1982 May-July

Miscellaneous

F.204A Miscellaneous printed material 1974-80. Includes photocopy of Pringle's contribution on Armyworm research at ICIPE to Insect Biology in the Future (1980).

Science in the Third World

CROP BORERS

1979

F.205 Circular only re programme leader of Borers Research Programme, 18 April 1979.

ELECTROPHYSIOLOGY

1973-79

F.206, F.207 Contents of a folder inscribed 'Prof. F. Huber - Seewiesen - Electrophysiology'.

F.206 1973 October-December. Includes report of Huber's visit to ICIPE, 10-26 November.

F.207 1974-76. Includes report on the Electrophysiology Research Unit, 19 October 1974.

F.208-F.212 Contents of a folder inscribed 'Schneider, Prof. Dietrich - Electrophysiology'.

F.208 1973 November, December. Principally re budget and equipment.

F.209 1974 (one letter only), 1975. Staff appointment; sensory physiology research unit work plan for 1976.

F.210 1976. Staff appointment; general ICIPE matters.

F.211 1977. Staff appointment; sensory physiology research unit annual report; general ICIPE matters.

F.212 1978, 1979.

FINE STRUCTURE

1974, 1978

F.213 Brief correspondence re electron microscope training, installation, servicing, etc., January-May 1974, November 1978.

Science in the Third World

INSECT/HOST PLANT RELATIONS

1979

- F.214 Letter and abstract re rice brown planthopper, February, June 1979.

ISOLATION MECHANISMS

1973-76

- F.215, F.216 Correspondence and papers for project on isolation mechanisms with respect to the control of tsetse flies.

F.215 1973, 1974 (one letter only). Budget and funding.

F.216 1975, 1976. Research proposals and funding.

MOSQUITO

1973-78

- F.217, F.218 Correspondence and papers for various mosquito research projects.

F.217 1973

F.218 1974-78

ORIENTATION

1973-76, 1980

- F.219-F.222 Correspondence and papers re project to investigate the visual behaviour and physiology of the armyworm in relation to its ability to orient itself during night flights.

F.219 1973 (one letter only), 1974

F.220 1975

F.221 1976

F.222 1980. Includes 1p. note on flight capability and orientation possibly prepared for inclusion in ICIPE annual research report.

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SALIVARY GLAND PHYSIOLOGY

1974-76

- F.223 Correspondence with T.R. Odhiambo principally on budget and funding for tsetse salivary gland programme, October 1974-June 1976.

SORGHUM SHOOT FLY

1974-75

- F.224 Correspondence and papers re sorghum shoot fly programme, July 1974, July and September 1975.

TERMITES

1972-79

F.225-F.234

Correspondence and papers for various proposals for research on termites.

F.225 1972. Proposal for a research programme in termites' pheromones, 15 January.

F.226 1973 May-August. Principally re staff appointment and laboratory space. Includes letter appointing W.A. Sands Director of Research with special responsibility for the termite research programme.

F.227 1973 October-December. Includes report by Sands on a visit to ICIPE in connection with termite research.

F.228 1974 May, September.

F.229 1974 October, December. Principally re long-range funding of termite research.

F.230 1975 May-December. Includes report by Sands on two visits to ICIPE in connection with termite research.

F.231 1976. Includes work-programme and budget for the five years from January 1977.

F.232 1978 June-September. Principally re research planning and staff appointments.

F.233 1979 April, May. Includes report on termite ecology project.

F.234 1979 September. Includes agreement between Swiss Development Corporation and ICIPE on a research programme in termite physiology and behaviour; staff appointment.

Science in the Third World

MISCELLANEOUS

- F.235 Accounts, 1971-82.
- F.236 Correspondence, 1977, 1979, 1981. Principally with J. de Wilde.
- F.237 Meetings and symposia, 1974, 1978, 1979 and n.d. Includes Pringle's ms. notes.
- F.238 Membership and staff lists.
- F.239 Miscellaneous printed material including brochure setting out 'objectives, activities, and governance' of proposed International Centre of Insect Physiology and Ecology (Nairobi, 1970).
- F.239A Miscellaneous duplicated Royal Society committee papers on early ICIPE affairs including Pringle's report on visit to East Africa in 1971. (Late addition after rest of ICIPE material had been catalogued.)

Science in the Third World

- F.240-F.262 SERENGETI RESEARCH INSTITUTE
- F.240 Minutes of meeting of Scientific Council, 9 January 1969.
- F.241 Annual report 1969 (printed).
- F.242 Supplement to 1969 annual report. (Financial statements for restricted circulation only.)
- F.243 Minutes of meeting of Scientific Council, 8 and 9 January 1970.
- F.244 Brief correspondence, February-May 1970; annual report 1970.
- F.245 Minutes of meeting of Scientific Council, 6 and 7 January 1971.
- F.246 'Proposals for Research on the Ecology of Acridids in the Serengeti National Park, Tanzania', n.d. ? January 1971.
- F.247 Correspondence, May-September 1971.
- F.248 Minutes of meeting of Scientific Council, 7 and 8 January 1972.
- F.249 Annual report, January-June 1972 (printed).
- F.250 Financial statements, 1971-72; report on large mammals killed in the Serengeti National Park 1962-72; quarterly reports, July-September and August-December 1972.
- F.251 Brief correspondence, August, December 1972.
- F.252 Agendas, papers and minutes for meetings of Scientific Council and its executive committee, January 1973.

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- F.253 Brief correspondence, January-March 1973; minutes of executive committee meetings, March, May and October 1973.
- F.254 Agenda and minutes of meeting of Scientific Council, January 1974; minutes of executive committee meetings, April and July 1974; quarterly report, July-September 1974.
- F.255 Minutes of executive committee meeting, October 1974; quarterly report, October-December 1974.
- F.256 Annual report, 1973-74 (printed).
- F.257 Agenda and minutes of meeting of Scientific Council and minutes of executive committee meetings, January 1975.
- F.258 Correspondence, January-May 1975. Letter of 1 January from A.R.E. Sinclair includes description of Darwin (Australia) cyclone.
- F.259 Quarterly report, January-March 1975; minutes of executive committee meeting, April 1975.
- F.260 Brief correspondence, 1976; minutes of executive committee meeting, February 1977; brief correspondence, April, November, December 1977.
- F.261 Correspondence, 1978; report (by A.R.E. Sinclair) on the status of the Serengeti National Park.
- F.262 Correspondence, 1979; notes of Pringle's interview with Tanzanian Minister of Natural Resources and Tourism and statement by A.R.E. Sinclair on the conservation of the Serengeti Ecosystem.

SECTION G SOCIETIES AND ORGANISATIONS G.1 - G.28

- | | |
|-----------|---|
| G.1 -G.11 | International Bee Research Association |
| G.12-G.20 | International Conference on the Unity of the Sciences |
| G.21-G.24 | National Research Development Corporation |
| G.25-G.28 | The Royal Society |

INTERNATIONAL BEE RESEARCH ASSOCIATION, 1976-82

Pringle became a member of the Association in 1979 and was elected to the Council in the same year. In 1982 he accepted an invitation to join the Steering Committee for the Third International Conference on Apiculture in Tropical Climates, to be held in Nairobi in 1984 (see G.11). As a member of the Finance Committee Pringle was concerned with funding for the association and its research projects.

The material is presented as a chronological sequence of correspondence and committee papers. The correspondence is with Eva Crane, the Director, and colleagues interested in the work of the association and research on bees.

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|-----|--|
| G.1 | 1976-78. Information about the association. |
| G.2 | 1979 February-July. Includes agendas and minutes of meetings, letters <u>re</u> Pringle's membership and election to Council. |
| G.3 | 1979 August-December. Agendas, committee papers and minutes of meetings. |
| G.4 | 1980 January, February. Agendas, committee papers and minutes of meetings; brief correspondence. |
| G.5 | 1980 March-May. Agendas, committee papers and minutes of meetings; brief correspondence. Pringle's letter of 12 May relates to the funding of the association. |

Societies and organisations

- G.6 1980 June-August. Agendas, committee papers and minutes of meetings; correspondence re appointment of information officer and funding.
- G.7 1980 September-December. Agendas, committee papers and minutes of meetings; correspondence re funding, Pringle's proposal for a special meeting to consider the long-term future of the association.
- G.8 1981 January, February. Agendas, committee papers and minutes of meetings.
- G.9 1981 March-May. Agendas, committee papers and minutes of meetings; correspondence re funding, long-term future of the association.
- G.10 1981 June-December. Agendas, committee papers and minutes of meetings; correspondence re funding, new Vice-President.
- G.11 1982. Includes papers re Steering Committee for Third International Conference on Apiculture in Tropical Climates, Nairobi, 1984, with invitation to Pringle to serve on the committee and his acceptance.

Societies and organisations

INTERNATIONAL CONFERENCE ON THE UNITY OF THE SCIENCES, 1978-82

Pringle attended four ICUS meetings, of which only two, at Los Angeles in 1979 and at Miami in 1980, are documented here; they show Pringle's considerable involvement with the organisation. He refused an invitation to attend the 1981 meeting because of ill-health.

The surviving material consists of correspondence, mainly relating to arrangements and speakers for the session on 'Population and values' which Pringle chaired at the 9th ICUS at Miami 1980; there is also some conference material and a few miscellaneous items.

For letter referring to the Unification Church, see C.40; for letter re 7th ICUS, see E.73.

Correspondence

- G.12 1978 (one letter only), 1980 May-July. Includes invitations from Pringle, and on his behalf from ICUS Secretary-General, to contribute to session under his chairmanship at 9th ICUS.
- G.13 1980 August. Includes suggestion sent to Pringle for paper to be given at 9th ICUS and Pringle's requests for publications on population.
- G.14 1980 September, October. Includes Pringle's letter to K. Mellanby re his back condition, in case Mellanby had to take over Pringle's session at 9th ICUS.
- G.15 1981, 1982. Includes information on and invitations to Pringle to attend International Cultural Foundation seminar for ICUS participants at Abidjan, August 1981, and 10th ICUS at Seoul, November 1981, Pringle's refusals because of ill-health and his comments on conference programmes and participation.

Societies and organisations

Conference material

- G.16 8th ICUS, Los Angeles, 22-25 November 1979.
Pringle was moderator of Group 7 'Sociobiology and value systems'.
Folder of conference material, including 1p. ms. notes by Pringle.
- G.17-G.19 9th ICUS, Miami, 27-30 November 1980.
Pringle chaired Session IIIB, 'Population and values'.
- G.17 Pringle's 'Chairman's Introduction' and 'Discussion Notes' for the session.
- G.18 Papers by others prepared for Session IIIB.
Folder also includes paper by H.A. Krebs 'Biotechnology and values: how to arrive at sound value judgements', prepared for Session IIIC.
- G.19 Conference material, including 'Founder's address'.
- G.20 Preliminary agenda for 10th ICUS, Seoul, November 1981 (Pringle did not attend); newspaper cuttings on population and the family; reprint of 'Marriage, family and Sun Myung Moon' by J.H. Fichter, 1979.

NATIONAL RESEARCH DEVELOPMENT CORPORATION, 1964-75

In 1964 Pringle wrote to P.M.S. Blackett that 'we have recently learnt how to prepare from insect flight muscle a system of protein fibres which function in vitro as a direct converter of chemical to mechanical energy'. After discussion with N.R.D.C., a provisional specification for a patent was filed on 28 May before the discovery was demonstrated to a meeting of the Physiological Society on 6 June. Pringle then began work to develop 'a piece of apparatus which would convert the fibre oscillation into a rotary movement'. By November he had 'nearly completed working out a comprehensive hypothesis about the nature of the mechanochemical energy conversion'.

Continued

Societies and organisations

It was later (April 1965) decided to abandon the patent as no 'practical form of mechanical device which embodies the principle involved' had been developed. However, Pringle published 'The contractile mechanism of insect fibrillar muscle' (Bibliog. 1967a), a review of the subject.

In 1969 R.H. Abbott of the Oxford ARC Unit had developed 'an interface and system for direct on-line control of the Solartron JM1600 Transfer Function Analyser from a Digital PDP8 computer', but after initial discussions it was decided that there was no financial advantage in licensing the development.

- G.21 1964 March-May. Includes Pringle's initial enquiry to P.M.S. Blackett re possibility of patenting discovery, copy of preprint submitted for circulation to members of the Physiological Society, drafts of provisional specification.
- G.22 1964 June-December. Includes copy of the provisional specification as filed and letter from Pringle, 13 November, re development of apparatus, etc.
- G.23 1965-68. Includes correspondence re a symposium report (1960) on contractile polymers and other publications on 'the mechanism of mechano-energy conversion'.
- G.24 1968-75. Correspondence re 'on-line control of transfer function analyser' by R.H. Abbott.

Societies and organisations

THE ROYAL SOCIETY, 1977-82

- G.25 Discussion meeting on 'strategy and tactics of control of migrant pests', 29, 30 June 1977. Pringle chaired the 'Systems and management' session on the second day.
 Invitation to chair session; information sheet; programme.
- G.26 Soirée Committee, 1979-81.
 Correspondence, including letter of invitation to serve, Pringle's acceptance, agenda and minutes of meeting of 8 May 1981 and papers re proposed exhibits for 1981.
- G.27 Elections, 1979-80.
- G.28 Elections 1981-82.

SECTION H VISITS AND CONFERENCES H.1 - H.16

The surviving material covers only the period 1971-81 and does not adequately reflect Pringle's travel or his attendance at conferences. For his frequent visits to Nairobi for ICIPE, see Section F.

- H.1 XXV International Congress of Physiological Sciences, Munich, 25-31 July 1971.

Summary of Pringle's lecture 'Physiology and biochemistry of oscillatory muscles', given 28 July; 'First Announcement' See also E.45.
- H.2 Visit to University of Nairobi as a Royal Society Visiting Professor, August 1972-March 1973.

Letter of appointment; Pringle's report as published; newspaper cutting.
- H.3, H.4 EMBO Muscle Workshop, Alpbach, 13-18 March 1974.

H.3 Letter from organisers, programme, list of participants, ms. notes made by Pringle on the contributions of others and his (typescript) report on the workshop.

H.4 Invitations to 1977 and 1980 workshops. See C.39 for Pringle's notes on the 1977 meeting. He declined the 1980 invitation.
- H.5 Vth International Biophysics Congress, Copenhagen, August 1975.

Pringle attended the Congress as a UK delegate to the General Assembly of the International Union of Pure and Applied Biophysics.

Pringle's report to Royal Society; correspondence; 'Second Announcement' booklet.
- H.6 Symposium on 'Biodynamics of Animal Locomotion', Cambridge, 1-5 September 1975.

Conference material only.

Visits and conferences

- H.7 Society for Experimental Biology symposium on 'Calcium in biological systems', Royal Holloway College, 9-12 September 1975.
Pringle's ms. notes on contributions by others; programme.
- H.8 Visit to Poland, 1-9 October 1975.
Pringle undertook a programme of lectures and visits at the invitation of the Commission for Muscle Physiology in the Physiological Committee of the Polish Academy of Sciences. For lecture material, see E.57-E.59.
Correspondence re arrangements; Pringle's report on the visit.
- H.9 Joint Biology Committee conference on 'Locomotion', 5 November 1977.
Programme only. Pringle gave a lecture on 'Physiology of Control in Insect Flight'.
- H.10 Visit to University of Nairobi, June 1979.
Pringle combined this visit with attendance at the ICIPE annual research conference on 1 June. See F.10, F.93, F.94.
Correspondence, including suggested emeritus visiting professorship for Pringle in the zoology department after his retirement; photograph of departmental members.
- H.11 9th European Congress on Muscle and Motility, Salzburg, 15-18 September 1980.
Pringle suffered a slipped disc just before the congress and therefore withdrew.
Correspondence; congress material. Folder includes material re 11th Congress, September 1982, with a ms. note 'attend'.
- H.12 Invitation to attend as Chief Guest at the Annual Session of the Sri Lanka Association for the Advancement of Science, December 1980 (declined).

Visits and conferences

H.13, H.14

Visit to Australia, September-November 1980.

Pringle was a Visiting Fellow (Research Scholar) in Chemistry in the School of Chemistry, Macquarie University for eight weeks from 5 October 1980. He gave seminars at Macquarie and elsewhere during his stay, and also visited natural history parks and institutions.

H.13 5pp. ms. notes, dated 27 October 1980 and inscribed 'Macquarie', transparencies, etc.

H.14 Correspondence with colleagues and officials at Macquarie, Melbourne, Canberra, Perth re visits or lectures, 1979-80.

H.15

American Society of Zoologists symposium on 'Arthropod Locomotion and Exercise', Seattle, 27-30 December 1980.

Pringle was invited 'to sum up the proceedings and say something about future research possibilities' but was unable to attend due to lack of funding.

Correspondence only.

Muscle Club meeting, Leicester, 10 April 1981.

Brief correspondence and information only.

H.16

Gordon Conference on Muscle Proteins, Plymouth, New Hampshire, 29 June-3 July 1981.

Correspondence re arrangements; material re Pringle's contribution on 'cross-bridge elasticity and the mechanism of force generation: a new hypothesis'.

SECTION J CORRESPONDENCE J.1 - J.148

INTRODUCTION TO SECTION J

The material is presented as follows:

- J.1 -J.137 Correspondence with individuals. In alphabetical order, dated and indexed, with a brief indication of any information of particular biographical, scientific or historical interest.
- J.138, J.139 Shorter unindexed correspondence.
- J.140-J.148 References and appointments.

The surviving correspondence does not, unfortunately, reflect the whole span of Pringle's career or interests.

A substantial proportion relates to the appointment and subsequent careers of members of Pringle's ARC Unit in the Oxford Department of Zoology, at various levels of seniority and for varying lengths of service. See introduction to ARC Unit in Section C for list of those involved.

The folders may include personal profiles, research proposals or reports, publications and later career, and a brief indication of these matters is given in the entries.

- J.1-J.4 Abbott, R.H. 1966-80.
- Abbott was appointed to the ARC Unit from 1967 until its closure in 1979, with special responsibility for developing computer techniques for measuring contractile mechanism in insect fibrillar muscle.
- Correspondence on all aspects of career and research.
- J.1 1966-69. Appointment to ARC Unit, Pringle's budget estimates with account of research proposed, purchase of equipment, etc.
- J.2 1970-73.
- J.3 1974-80.
- J.4 Correspondence 1973-74 re ALGOL compiler for mini computers, devised by Abbott.

Correspondence

- J.5 Allen, A.J. 1975, 1978
Brief correspondence only, re appointment as photographic technician at ARC Unit and later at Department of Forestry, Oxford.
- J.6 Ashe, J. 1976, 1979
Ashe was Senior Insect Technician at the ARC Unit. After its closure he worked in Kenya for BIOKEN supplying specimens and research material. See C.46, C.47.
- J.7-J.10 Ashhurst, D.E. 1964-78
Ashhurst had a temporary appointment at the ARC Unit, 1964-67, before taking up posts at Birmingham and London.
Correspondence on all aspects of career, research, publications, etc.
- J.7 1964, 1966, 1968
- J.8 1969-70. Mainly on publications.
- J.9 1971-74
- J.10 1975-78, 1981. Includes comments on Pringle's 'resting elasticity' paper.
- J.11 Barber, S.B. 1960-67, 1979
Barber spent the academic year 1963-64 in Pringle's laboratory, as a U.S. Public Health Service Fellow, working on Lethocerus.
General correspondence on research, publications, appointments.
- J.12 Bell, J.L. 1973-79
Bell was a research assistant in the ARC Unit from January 1974 until 1976, working on protein biochemistry.
Mainly administrative correspondence.
- J.13 Bennett, R.M. 1978
Bennett was a probationary research assistant with the ARC Unit July-November 1978.

Correspondence

- J.14, J.15 Boettiger, E.G. various dates 1956-67
General correspondence on research and publications.
J.14 1956-60 J.15 1961-64, 1967
- J.16 Bullard, B. 1980-81
Brief correspondence only, on muscle research, after the closure of the ARC Unit where Bullard was a Senior Scientific Officer until 1979.
- J.17, J.18 Bullock, T.H. and others 1966-67, 1975, 1979
J.17 1966-67. Mainly re Amazon expedition on R/V Alpha Helix, February-April 1967. Pringle accepted an invitation to join the expedition but was obliged to withdraw. Includes details of ship and equipment.
J.18 1975, 1979.
- J.19 Cage, P. 1976-79
Cage was a Research Assistant in the ARC Unit, working with R.H. Abbott, January 1977-July 1979.
- J.20-J.25 Chaplain, R.M.A. and others 1965-76
Chaplain, an East German biochemist, came to Oxford in April 1961; he worked for several months with Professor Sir Hans Krebs, then took a degree in biochemistry.* In October 1964 he began work as a research student in the Department of Zoology under Pringle's supervision, completing his doctoral thesis on 'Biochemistry of the Contractile Mechanism of Insect Flight Muscle' in June 1966. He returned to East Germany and built up a research group at Magdeburg, but left as a refugee in 1973.
Correspondence on all aspects of career, research, publications, appointments.
* Material relating to this period of Chaplain's career can be found in the collection of papers of Sir Hans Krebs (CSAC catalogue no. 113/4/86) deposited in Sheffield University Library.
J.20 1965. Mainly re Chaplain's paper 'Indication for an Allosteric Effect of ADP on Actomyosin Gells and Glycerinated Fibres from Insect Flight Muscle'; includes correspondence with J. Monod and J.C. Rüegg.

Correspondence

J.21 1966. Research and publications; includes draft papers by Chaplain.

J.22 1967. Research, publications, proposed visit by Chaplain to UK.

J.23 1968. Includes ARC Internal Memorandum no.23 (extract from Chaplain's letter of 16 January on his current research). Mainly re Chaplain's paper 'On the role of actin' and other projects.

J.24 Heavily-corrected drafts of Chaplain's paper 'On the role of actin'.

J.25 1969-76

J.26-J.28

Clarke, M.L. 1979-82

Clarke had been a research assistant to R.T. Tregear at the ARC Unit in Oxford but the surviving material comes from the ARC Institute of Animal Physiology, Babraham, where she transferred after 1979.

Correspondence on research, career, publications.

J.26 1979-80

J.27 1981

J.28 1982

J.29

Coffman, D. and others 1974-75

Coffman was appointed as a research technician at the ARC Unit from November 1974, later registering as an advanced student.

J.30

Conn, D.L.T. 1974-79

Conn was appointed to the ARC Unit from October 1974, resigning in March 1976 to take up another post.

J.31

Connolly, C.M.P.A. (later Mann) 1976-77

Secretary/Administrator to ARC Unit.

Correspondence

- J.32 Coombs, R.W. 1972-74, 1977-79
Coombs was appointed research assistant to the ARC Unit in October 1972, leaving in 1974 to study for a further degree.
- J.33, J.34 Craig, R.W. 1978-81
Craig held a Visitor's Post with the ARC Unit, working on myosin filament from October 1978-September 1979.
- J.33 1978
J.34 1979, 1981
- J.35-J.39 Cullen, M.J. and others 1966-80
Cullen was appointed a Research Assistant under a project funded by the U.S. Air Force, working mainly in Trinidad on the biology of Belostomatidae water bugs, and also working for a doctorate under Pringle's supervision.
General correspondence on all aspects of career and research and, during Cullen's period in Trinidad (J.35, J.36), his regular despatch of bugs and material to Oxford.
- J.35 1966 J.37 1970-71
J.36 1967 J.38 1972
J.39 1973-80
- J.40 Cuminetti, R. 1974-81
Cuminetti was appointed Research Assistant in the ARC Unit from October 1974 until its closure in 1979.
General correspondence on research, publications, appointments.
- J.41, J.42 Dodd, C.W.H. 1972-77
Dodd was appointed as a Scientific Officer to the ARC Unit from August 1972 with responsibility for maintaining and improving the insect cultures.
- J.41 1972-73 J.42 1974, 1977

Correspondence

- J.43 Goll, D.E. 1971-72, 1976
Goll, an American muscle biologist, planned to spend a year in Pringle's ARC Unit from October 1971 but left in May 1972 to take up another appointment.
- J.44 Gosline, J.M. 1977-81
Muscle crossbridge research.
- J.45 Gray, B.F. 1980-81
- J.46 Gray, P. 1981
Branching chain reactions.
- J.47 Gregor, C.B. 1977
Salinity of sea water and proposed joint letter to Nature. Includes reprints by Gregor of interest to Pringle.
- J.48, J.49 Hanson, E.J. 1962-73
Research, publications, etc.
J.48 1962-67. Includes preliminary discussions re proposed ARC Unit and personnel.
J.49 1969-73. Includes Hanson's report of her visit to Russia, August 1969, under the Royal Society Exchange Visits scheme, and material, 1973, re future of School of Biological Sciences, London.
- J.50 Houk, J.C. 1973
Positive force feedback.
- J.51 Hoyle, G. 1966-70, 1975-81
Research, visits, publications, etc. Includes photographs of results.

Correspondence

- J.52 Hunt, K. 1980
Brief correspondence only, re Oxford Ethnobotanical Expedition
to Kenya in January 1981.
- J.53 Huxley, A.F. 1978, 1979
Correspondence 1979 is re R.H. Abbott's work on oscillatory
contractions.
- J.54 Huxley, H.E. and others 1965-69
Research on muscular contraction in Pringle's Oxford group and
the MRC Unit at Cambridge; British Biophysical Society meeting,
1967.
- J.55 Jewell, B.J. 1964-65, 1981
- J.56 Kammer, A.E. 1969
Brief correspondence only.
- J.57 Lane, M. (Miriam Rothschild) 1966, 1972-75
Mainly on 'how fleas jump'.
- J.58 Lawrence, P.A. 1981
Flight muscles of Drosophila.
- J.59 Leakey, R.E. and others 1977-78
re International Louis Leakey Memorial Institute for African
Prehistory, and casts of hominid fossils available from National
Museums of Kenya.
- J.60 Lebacqz, J. and others 1972-75
Lebacqz, a Belgian muscle physiologist, worked in Pringle's ARC
Unit with Belgian funding 1973-74, and as an ARC Visiting
Scientist April 1974-September 1975.

Correspondence

- J.61 Lehman, W. J. 1972-77
Lehman was appointed a Visiting Scientist in the ARC Unit for nine months from January 1973.
- J.62 Levine, J. various dates 1967-74
Levine, an American scientist, worked in Pringle's ARC Unit for six months from May 1968, working on electrophysiological techniques and Drosophila giant fibre.
- J.63 Liston, A.D. 1980-81
Supplies of insects.
- J.64 Loveridge, J.H. 1970-76
Loveridge was a Junior Technician at the ARC Unit from November 1971.
- J.65 Loxdale, H.D. 1974-77
Loxdale was an MRC Research Student working at the ARC Unit.
- J.66 Luke, B.M. and others 1967-77
Luke was a Research Assistant in the ARC Unit from August 1967.
- J.67 Macqueen Film Organisation Ltd. 1967-76
re Prints and royalties of Pringle's film 'Wing Mechanism of the Bee'.
- J.68 Marston, S.B. 1970, 1976-78, 1981
Marston worked at the ARC Unit in 1977 (funded by The Muscular Dystrophy Association) and January-September 1978 as an ARC Visiting Scientist, working in collaboration with R.T. Tregear.

Correspondence

- J.69, J.70 Maruyama, K. 1965-67, 1972-78
Maruyama, a Japanese molecular biologist, spent three months in the ARC Unit from September 1966 and published collaborative papers (Bibliog. 1967b, 1968b). He spent a further short period of research in the Unit in 1977.
- J.69 1965-67 J.70 1972-78
- J.71 Matthews, D.C. 1976-77
Matthews was appointed Research Assistant with the ARC Unit for two years from March 1976 and resigned February 1977. Brief correspondence only.
- J.72-J.76 Mercola D.A. and others 1974-79
Mercola, an American biophysicist, was a senior member of the ARC Unit, working on the crystallisation and X-ray diffraction of muscle protein. He had worked until May 1974 with Dorothy Hodgkin in the Molecular Biophysics Laboratory in the Oxford Department of Zoology, and took up a full-time appointment as Senior Scientific Officer with the ARC Unit from September 1974 to November 1977 when he became a part-time consultant.
- J.72 1974 J.75 1978. Includes grant applications and research reports.
J.73 1975-76 J.76 1979
J.74 1977
- J.77 Miles, M. 1975-76
Brief correspondence only, re appointment as Assistant Secretary with ARC Unit.
- J.78 Moore, T.E. 1965-70
Cicadas.
- J.79 Morris, D.J. 1971-77
Electronics technician with ARC Unit.

Correspondence

- J.80 Morris, E. 1977-79
Electronmicroscope technician with ARC Unit.
- J.81-J.83 Neville, A.C. and others 1967-75
Neville was a senior member of the ARC Unit, appointed in 1963, though the surviving material dates only from 1967; Neville left the Unit on his appointment as a Lecturer at Bristol in 1972.
Correspondence on all aspects of career and research.
- J.81 1967-69 J.83 1972-75
J.82 1970
- J.84-J.87 Newsholme, E.A. and others 1966-76
Newsholme was appointed Senior Scientific Officer with the ARC Unit from January 1967, having worked previously for three years in Sir Hans Krebs's MRC Cell Metabolism Unit in the Oxford Department of Biochemistry; he returned to the Biochemistry Department in 1974 on his appointment as university lecturer.
Correspondence on all aspects of career and research.
- J.84 1966-68 J.86 1971
J.85 1969-71 J.87 1972-73, 1976
- J.88-J.91 Ogata, M. and others 1966-70
Ogata, a Japanese biologist, joined the ARC Unit as Principal Scientific Officer for one year from October 1968 to work on conductance.
Correspondence mainly on research; includes research reports and results.
- J.88 1966-July 1967 J.90 1968
J.89 October-December 1967 J.91 1969-70

Correspondence

- J.92-J.94 Oplatka, A. and others 1967-74
Oplatka, an Israeli mechanochemist, spent February-August 1970 in Pringle's laboratory as a fellow under the Royal Society/Israel Academy of Sciences and Humanities scheme.
- J.92 1967-69
- J.93 1969
- J.94 1970-72, 1974. Includes material re new Journal of Mechanochemistry and Cell Motility (Oplatka was Editor) and special memorial issue for A. Katzir-Katchalsky, assassinated at Lod airport.
- J.95 Passano, L.M. 1977
- J.96-J.99 Pau, R.N. and others 1966-77
Pau was appointed to the ARC Unit from October 1966, working mainly on biochemical problems of insect cuticle.
Correspondence on all aspects of research and career.
- J.96 1966-69 J.98 1976
- J.97 1970-75 J.99 1977
- J.99A Pimm, J.E. 1974-78
Brief correspondence re appointment as Accounts Clerk at ARC Unit.
- J.100 Rajulu, G.S. 1978-79
Arrangements for short visit and discussions at Pringle's ARC Unit, funded by special grant from ARC.
- J.101 Reedy, M.K. 1966-72, 1981

Correspondence

- J.102, J.103 Rees, C.J.C. and others 1964
Research, publications.
J.102 1964-66
J.103 1967. Includes letters on life in Japan.
- J.104 Rodger, C.D. 1973-75
Rodger was a Research Assistant in the ARC Unit, working with R.T. Tregear.
- J.105-J.107 Rossmanith, G.H. and others 1977-81
Rossmanith, an Australian biomathematician, spent a sabbatical year with the ARC Unit working on mechanical studies of muscle contraction.
Correspondence on research, publication, career.
J.105 1977-78
J.106 1979 April-June
J.107 December 1979-1981
- J.108-J.112 RÜegg, J.C.A. and others 1964-77
RÜegg, a Swiss protein biochemist, first visited Pringle's laboratory in April 1964. Pringle hoped he would join the ARC Unit for up to three years; in the event he accepted a one-year appointment, October 1964-October 1965, and continued to maintain active contact subsequently, through shorter visits and talks as well as by detailed postal exchanges.
Correspondence on all aspects of research and career.
J.108 1964
J.109 1966-67
J.110 1968-69
J.111 1970
J.112 1972-73, 1976, 1977

Correspondence

- J.112A Savage, A.F.W. 1969-76
Workshop technician at ARC Unit September 1969-August 1976.
- J.113-J.116 Smith, D.S. and others 1960-67, 1980
Smith graduated and began research at Cambridge before moving to America. He worked in Pringle's ARC Unit as a visitor, November 1966-June 1967.
- J.113 1960. Correspondence arising from Pringle's publication (Bibliog. 1959a, b. 1960a) and Smith's research on Tenebrio flight muscle. Includes related electron micrographs.
- J.114 1961. Negotiations to return to work in Cambridge.
- J.115 1962-64
- J.116 1965-67, 1980
- J.117 Spence, A.R.H. 1978
Brief correspondence re appointment as photographic technician at ARC Unit.
- J.118 Squire, J.M. 1971-74, 1977, 1982
Squire was appointed to a temporary post with the ARC Unit, April-September 1972, before taking up a post at Imperial College, London.
- J.119 Steiger, G.J. 1975-78
Steiger was a Visiting Scientist with the ARC Unit for one month, October-November 1977.
- J.120 Stracher, A. 1973
Stracher spent six months sabbatical leave from America in the ARC Unit.
Correspondence mainly re arrangements.

Correspondence

- J.121-J.125 Thorson, J.W. 1964-77
- Thorson was a postdoctoral worker, funded by the National Science Foundation, at the ARC Unit, May 1966-May 1967, with subsequent shorter visits.
- Correspondence on research, publications, career.
- J.121 1964 J.124 1969-72
- J.122 1965-67 J.125 1973-77
- J.123 1968
-
- J.126-J.129 Tregear, R.T. 1973-76
- Tregear was one of the senior members of the ARC Unit, serving as Principal Scientific Officer from 1965 until its closure, when he moved to the ARC Animal Physiology Research Unit, Babraham. The surviving material relates only to a brief period in this long association.
- J.126 1973-74. Correspondence on the work of the Unit, research in hand.
- J.127 1975, 1977, 1978. Research ideas, reports on visits and conferences.
- J.128 Research notes on 'argument about crossbridge mass in insect flight muscle', n.d.
- J.129 Miscellaneous biographical data.
-
- J.130 Trombitás, C. 1974, 1979
- Mainly re paper submitted for publication by Trombitás, which Pringle revised. Includes corrected draft and micrographs.
-
- J.130A Waters, L. 1974
- Waters was a photographic technician with the ARC Unit from 1968. Brief correspondence only.

Correspondence

- J.131, J.132 White, D.C.S. 1967-81
White was a research student supervised by Pringle before taking up academic appointments.
- J.131 1967-69 J.132 1971-81
- J.133 Whitehead, D.L. 1965-73
Whitehead was appointed to the ARC Unit August 1966-September 1968, working on tanning reactions in insect cuticle and cotheca.
- J.134 Wilkin, P.J. 1969-71
- J.135 Winkelman, H.L. 1969-73, 1977
Winkelman was appointed as a Research Assistant with the ARC Unit from October 1969.
- J.136 Wollmer, A. 1976
Wollmer spent two months, July-September 1976, working at the ARC Unit with D.A. Mercola, part funded from the Underwood Fund of the ARC.
- J.137 Zelazny, B. 1966-67, 1972
Visit, supplies.

SHORTER UNINDEXED CORRESPONDENCE

- J.138 Miscellaneous shorter exchanges, exchanges of or requests for reprints and information, work in hand, etc. 1966 (one letter only), 1979-82.
- J.139 Requests to quote, reproduce diagrams and illustrations in Pringle's publications, 1964-71.

Correspondence

REFERENCES AND APPOINTMENTS

Theses

J.140 1978

J.141 1980

Appointments

J.142 1978 (1)

J.143 1978 (2)

J.144 1979

Grant applications

J.145 1980

J.146 1982 (1)

J.147 1982 (2)

Publications

J.148 1980

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- 1938a Proprioception in insects. I. A new type of mechanical receptor from the palps of the cockroach. *J. exp. Biol.* 15, 101-113.
- 1938b Proprioception in insects. II. The action of the campaniform sensilla on the legs. *J. exp. Biol.* 15, 114-131.
- 1938c Proprioception in insects. III. The function of the hair sensilla at the joints. *J. exp. Biol.* 15, 467-473.
- 1938d (With G. FRAENKEL) Halteres of flies as gyroscopic organs of equilibrium. *Nature, Lond.* 141, 919-921.
- 1939 The motor mechanism of the insect leg. *J. exp. Biol.* 16, 220-231.
- 1940 The reflex mechanism of the insect leg. *J. exp. Biol.* 17, 8-17.
- 1948 The gyroscopic mechanism of the halteres of Diptera. *Phil. Trans. R. Soc. Lond. B* 233, 347-384.
- 1949 The excitation and contraction of the flight muscles of insects. *J. Physiol., Lond.* 108, 226-232.
- 1950a The flight of insects. *Sch. Sci. Rev.* 31, 364-369.
- 1950b The instrumentation of the living body. *Penguin Sci. News* 17, 100-114.
- 1951 On the parallel between learning and evolution. *Behaviour* 3, 174-215.
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