Catalogue of the papers and correspondence of

SIR ALISTER CLAVERING HARDY FRS

(1896 - 1985)

Compiled by Jeannine Alton and Peter Harper

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GENERAL INTRODUCTION

PROVENANCE

The material was received at various dates July 1986 - February 1988 from Mr Michael Hardy and Mrs Belinda Farley (son and daughter).

OUTLINE OF THE CAREER OF SIR ALISTER HARDY

Alister Hardy was born in 1896 into a prosperous middle-class family then living in Nottingham where his father was an architect. His mother was from Northumberland; both parents were country lovers and the family regularly spent holidays in Yorkshire in the country or at the sea. When Hardy's father died in 1904 they moved to Harrogate and Hardy embarked on a traditional education pattern at preparatory school (Bramcote, Scarborough 1908-11), public school (Oundle 1911-14) and university (Exeter College Oxford 1914).

Already, however, less conventional elements were present in his love of natural history, cycling, aircraft and sketching. The enforced interruption of the war and his service with the Northern Cyclist Battalion gave him new perspectives and catalysed his thinking on many social, humanitarian and spiritual matters for the rest of his life. He returned to Oxford in 1919, conducted research at the Stazione Zoologica Naples in 1921 and from August of that year took up his first post at the Fisheries Laboratory Lowestoft where he worked on herring drifters and from aircraft as well as in the laboratory in a study of plankton. This became his principal research interest and prompted his devising of recording apparatus leading to the Continuous Plankton Recorder with which his name will always be associated.

In 1924 he was appointed Zoologist on the <u>Discovery</u> expedition to the Antarctic 1925-27. This was another vital formative period, confirming him in his research interest and providing the additional stimuli of new experiences,

a degree of physical challenge, camaraderie and a distancing from everyday preoccupations. On his return he enriched his private life by marriage to Sylvia Garstang (December 1927), while professionally he was appointed to a newly created Professorship at Hull with a special interest in marine biology (October 1928). Here he was able to develop a Department of Oceanography and pursue his work on marine and aerial plankton. His award of the Scientific Medal of the Zoological Society (1939) and election to the Royal Society (1940) date from this period.

Hardy moved in 1942 to the Regius Chair at Aberdeen and in 1946 to the Linacre Chair at Oxford where he did much to encourage field researches at the Bureau of Animal Population and the Edward Grey Institute for Field Ornithology. He saw these as a contribution to his aim of fostering the study of ecology – including human ecology – adumbrated in his Inaugural Lecture at Aberdeen 1942 ('Natural history old and new') and developed in his British Association Address 1949 ('Zoology outside the laboratory'). His own work in marine biology continued and his major work <u>The open sea</u> was published in two volumes in the 1950s.

With the Gifford Lectures given at Aberdeen 1963-64 and 1964-65 and their publication as <u>The living stream</u> and <u>The divine flame</u> in 1965 and 1966 Hardy's career moved more strongly towards the study of evolutionary theory, natural theology and the biological basis of religious behaviour. In 1968 he set up the Religious Experience Research Unit at Manchester College Oxford to assemble and analyse religious experiences and most of his later writings were about the work of the Unit and his own beliefs. This aspect of his life work was crowned by the award of the Templeton Prize for 1985 which enabled the work to continue under a fitting change of name as the Alister Hardy Research Centre. Hardy himself, then 89, lived to make preparations and compose his address for the award ceremony, but was not well enough to be present and died a week later, in May 1985.

DESCRIPTION OF THE COLLECTION

It must be borne in mind that Hardy and his wife lived to a great age and as they became frailer moved to smaller accommodation with inevitable restrictions on space. Thus while the collection gives a good picture of most aspects of Hardy's many-sided life there are some omissions, such as any records of committee work for his several universities and departments, for government or advisory boards or for learned societies. There are few, albeit interesting, first-hand research records and Hardy's expeditions and travels are under-documented. The surviving correspondence is relatively thin and much must have been discarded. Fortunately Hardy, who was determined to write his autobiography, firmly kept documentation of what he considered key events or those which continued in the forefront of his interest. There is in consequence more material about his early formative years than about the established career, especially the Oxford period.

The papers are presented as 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 material of particular interest.

Section A (Biographical and autobiographical) documents most of the steps in Hardy's career both in relation to formal appointments and to personal relationships, and includes some applications for or offers of posts not otherwise recorded; the material tails off somewhat after about 1950. There are also the plans, outlines and several draft chapters for the autobiography which Hardy did not live to complete; the extant draft goes up to 1925 and thus includes the crucial 'vow' which Hardy made in his first term at Oxford to try to bring about a reconciliation between evolution theory and the spiritual awareness of man.

Section B (Zoology and marine biology) contains the surviving research material with related publications, lectures and expeditions. It includes Hardy's early plankton research, the development of the plankton indicator and recorder, the ill-fated expedition and shipwreck of 1941 in an attempt to explore plankton as a food resource. Of special interest is the

material on the <u>Discovery</u> expedition, with Hardy's preparatory work and sketches and his journals and reports; material on his published account of the voyage, <u>Great Waters</u>, and later correspondence are also included. Other projects are aerial drift, vertical migration and the 'Aquatic man' theory. The correspondence, though generally slight, has more substantial exchanges in the 1920s with Armand Denis whom Hardy met at Naples, and with Sir John Ellerman the reclusive millionaire shipping magnate who supported Hardy's oceanographic work at Hull.

Section C (Religion and the paranormal) supplies another dimension in Hardy's life and work. The material preserved here suggests that rather than being a scientist with a secondary interest in religious matters Hardy was a religious or mystic personality who saw his scientific career as an essential platform from which he could pursue a primary spiritual aim. The introduction to Section C develops and gives some of the evidence for this view.

The material includes records of Hardy's early (1916) and continuing interest in telepathy and thought transference. There is a considerable number of lectures and publications; the best-known are of course the Gifford Lectures, but they are only the most substantial contribution to a steady output right up to 1984 by no means all of which are listed in the published bibliographies. The history of the Religious Experience Research Unit is also documented in some detail through correspondence, minutes and other papers from its founding in 1968 to Hardy's death in 1985.

Section D (Patents, inventions, ideas) is a short section showing the liveliness and ingenuity of Hardy's mind, and also his self-confidence; the first attested patent dates from 1919, and he was still busy inventing devices of various kinds in 1979.

Section E (Other interests) bears more abundant testimony to Hardy's exceptional drive and energy. Some of the 'interests' such as flight and sketching might be termed 'hobbies' though Hardy put them to good use in other areas of his life. His short stories and writings were in part an attempt to externalise some of his philosophical and social preoccupations. The correspondence and other material on boxing, and on the Northern Cyclist Battalion, however, bring out much more sharply some of the factors bearing on his formation and mind. There are fuller notes on all these topics in Section E.

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Section F contains photographs, tape recordings and film of most phases in Hardy's career, including his war service, the <u>Discovery</u> and other expeditions, his university departments at Hull and Oxford and some of his marine research. The tape recordings are of his autobiographical <u>Desert Island</u> <u>Discs</u> programme, and expositions of his views on evolution and religion.

The obituary of Hardy published in The Times bore the headline 'Zoologist and religious thinker', and with truth. Yet this leaves out of count one of the most fundamental aspects of his character as shown in his personal papers: an amalgam of philanthropy, idealism, social concern, anger at false values, revulsion from established privilege and artificial barriers. This complex emotion, which Hardy himself found hard to express in other than rather naive terms, was triggered by his sudden contact as an immature 19 year old with the Northumberland and Durham pitmen of the Northern Cyclist Battalion. He felt, as he later explained, intense anger at having been misled by his education and social circumstances into such ignorance of life, and he determined never himself to erect social barriers and to dismantle them wherever he could. His resolution combined with his innate energy and he was as good as his word. The collection abounds in clusters of correspondence from those in subordinate positions whom he never overlooked, never forgot, and never treated as other than a friend. The letters speak directly or by implication of steady exchanges of news, advice, visits, remembrances for birthdays, Christmas, weddings and christenings unto the second and third generation. One has a picture of Hardy making regular safaris often to considerable distances to hospitals, homes and gatherings, arranging reunion meals and meetings, welcoming old acquaintances at his home, and also of wives, children and grandchildren taking up a treasured correspondence when the original recipient was too infirm, or dead. There were shipmates from the George Bligh (A.14) and Discovery (A.16), laboratory staff from Hull (A.23, A.24), Aberdeen (A.39) and Oxford (A.47). There are sparring partners (E.35-E.42). There are touching letters from the widows of the lost crewmen of the Christine Rose (A.33). Most remarkable is the long sequence of letters and other material from the ex-servicemen of the Northern Cyclist Battalion (E.12-E.23) with its repeated testimony to the respect and affection which Hardy inspired in those who kept up the correspondence. While there was undoubtedly some measure of social guilt on Hardy's part, and a degree of artificiality in such a relationship, yet his own directness and simplicity make it impossible to do other than admire his dedication.

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Hardy thus emerges as something of a Protean figure yet wholly straightforward in all his activities. It is perhaps significant that he went by an unusual variety of names to suit the circumstances. He did not like his own name Alister which he described as 'sissy', though he used it and was addressed by it in official correspondence and by less close friends. To university employees he was 'Prof' and to their families and children 'Uncle Prof'. To most scientific colleagues he was 'A.C.'. To his father-in-law he was and signed himself 'Ali'. More mysteriously, old friends from Oundle and Plymouth called him 'Glider' and some of his Lowestoft colleagues use 'Clarence'. But to his shipmates and NCB comrades he was always 'Mac', and 'Uncle Mac' to their families, contracted from 'Mac - Alister' a nickname he had been given in 1915 because of the vaguely Scottish origins of his own name. It is uncommon to find someone answering to so many names - one is reminded of David Copperfield - and it adds another strand to the tantalising mixture of complexity and simplicity in Hardy's personality.

LOCATIONS OF OTHER MATERIAL

Alister Hardy Research Centre Oxford: watercolours of temples

Fisheries Laboratory Lowestoft: framed photograph of <u>George Bligh</u> and crew; plans, and miscellaneous photographs of Continuous Plankton Recorder

Hull University Library Archives: taped recollections

National Maritime Museum: 26 watercolours and 3 photographs of <u>Discovery</u> expedition

Oxford University Department of Zoology: 42 watercolours

Science Museum London: original Continuous Plankton Recorder

Monks Wood Experimental Station Huntingdon: insect drift material

ACKNOWLEDGMENTS

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Jeannine Alton Peter Harper

June 1988

SECTION A BIOGRAPHICAL AND AUTOBIOGRAPHICAL A.1-A.57

A.1-A.54 Career, Honours and Awards

- A.55, A.56 Autobiography
- A.57 Miscellaneous

CAREER, HONOURS AND AWARDS A.1-A.54

Early Days

A.1

Postcards from parents.

Miscellaneous religious material including Hardy's Member's Card of Schoolboys' Scripture Union.

Bramcote Preparatory School, Scarborough (Roll of Honour).

Oundle School: views of school and laboratory, Transactions of Science Society 1914, cyclist's map of area with some underlined roads and places, headmaster's testimonial 1916 recommending Hardy for the post of 'Forest Officer to the Board of Agriculture', and a later letter 1919.

Exeter College Oxford 1914, 1919-21

A.2 Matriculation Certificate 1914.

'Decimal Club' meetings, menu card designed by Hardy and signed by members 1914, miscellaneous memorabilia 1919-20.

Question paper for Christopher Welch scholarship, press-cutting, letter of congratulation 1920.

War Service

A.3 Commission with Northern Cyclist Battalion 1915.

Certificates of courses attended, transfer to Northumberland Fusiliers, posting abroad, demobilisation etc.

Army book 439 with record of service.

Memorabilia, including souvenirs of brief service in France.

Also included here are two letters from F.C. Garrett (1919, 1936) through whom Hardy had first joined the cyclist battalion.

Hardy's service with the Northern Cyclist Battalion was a very important factor in his life, introducing him to a hitherto unknown sector of British society. The relationships he made at the time and carefully fostered for the rest of his life are documented in Section E and in the photographs and film in Section F.

A.4 Work on camouflage 1917-18

A.C. Hardy

Notes on 'Painting its use and misuse', 'Invisibility in Warfare', 'Camouflage'. Army instruction book on camouflage.

A.5 Letters from wartime comrade 1918-23, 1926.

Stazione Zoologica, Naples

Hardy spent six months December 1920 - June 1921 at the Stazione, working on <u>Priapulus</u> and other worms. The correspondence with his colleagues and friends is about research, the organisation of the Stazione and his own future career prospects; it is presented in alphabetical order of correspondent.

A.6

A.8

Bourne, G.C.	1920-21
Buxton, P.A.	n.d. [1921]
de Beer, G.	1921, 1922
Goodrich, E.S.	1920, 1921
Harrison, J.W.A.	1920

Two draft letters by Hardy on the organisation of the Stazione.

A.7 Huxley, J.S. 1920-26

This is a wide-ranging exchange of personal and scientific news on the Stazione, Hardy's and Huxley's careers etc. Hardy's letter of 16 May 1921 reveals his range of interests, his views on academic research and his inclination towards the post at the Fisheries in preference to an immediate return to University work.

Shorter correspondence following Naples visit.

A.9 Hardy's journal of impressions of Rome and Naples December 1920 - January 1921, and 1 page on leaving Naples 3 June.

Hardy's report on work done at Stazione.

Diary for 1921 including Naples and Italian travels, visits to NCB comrades, expeditions on George Bligh, flying at Felixstowe.

Career prospects 1920, 1921

A.10 Offers of posts as Curator of Sarawak Museum, special lecturer at Leeds, assistant lecturer at Edinburgh.

Fisheries Research, Lowestoft

- A.11 Hardy's appointment as Assistant Naturalist, preliminary correspondence with J.S. Gardiner, testimonials, resignation from Christopher Welch scholarship, letter of thanks on resignation from post to serve on <u>Discovery</u>, signed menu for farewell dinner 1924.
- A.12 Miscellaneous telegrams (signed with nicknames) and letters from colleagues at Lowestoft 1922-57.
- A.13 Later material, mainly historical 1967-84. Includes various references to Hardy and colleagues, photographs and films, a copy of Hardy's comic drawing of the <u>George Bligh</u> and its personnel (made 1922 or 1923) with his description and reminiscences (1982).
- A.14 Letters from crew of <u>George Bligh</u> (research trawler at Lowestoft) and their families.

'Discovery' expedition

A.15 Correspondence re Hardy's appointment as 'Zoologist on Scientific Staff' (he had applied for the post of Director, to which S. Kemp was appointed), letters of thanks at end of appointment (1928). Also included are signed menus for

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launching parties, and copy of R. Darnley's article in <u>The</u> <u>Nineteenth Century</u> 1923 which first aroused Hardy's interest in expedition and which he often refers to in his accounts.

A.16 Letters from crew of Discovery and their families.

Material relating to the research of the <u>Discovery</u> expedition is in Section B. Photographs are in Section F.

Engagement and marriage

A.17 Letters to Sylvia Garstang (14 December 1925) and Walter Garstang (28 July 1926).

> Hardy's long letter (43 pp) to Sylvia is an important statement of his views on evolution, the relationship between science and religion, human nature, class, and his own personality and spiritual development past and future.

A.18 Letters of congratulation, notices of wedding 1927.

University College (later University) of Hull

A.19 Hardy's draft letter of application for Chair of Zoology.

Letter 1929 from Duchess of Bedford giving set of Journal of Zoological Society to Hardy's Department as he had written 'the most courteous letter'. This episode is referred to in the history of the Department (A.30) pp.13-14.

Correspondence 1936 re application by Hardy for the Chair of Zoology at Glasgow and his decision to remain at Hull. Includes long draft letter from Hardy to Huxley setting out his views on his career, the eventual possibility of the Oxford Chair and his wish to develop research in human ecology, and manuscript testimonials from S. Kemp and A.E. Morgan.

A.20 Correspondence 1935-40 with A.E. Morgan including Morgan's brief period as Principal of McGill University.

A.21 Hardy's letter to old members of Needler Hall (of residence) where he was Acting Warden 1940.

Minutes of meetings, statement by Hardy on his acceptance of the Regius Chair at Aberdeen and the future of the oceanographical work at Hull, 1942.

- A.22 Conferment of Hon. D.Sc., Hull, 1963.
- A.23 Letters from Hull Laboratory staff and their families.
- A.24 Letters from Needler Hall staff and their families.
- A.25 Letters and photographs from J. Bartlett and family. Hardy first met Bartlett during the Second World War at Needler Hall where Bartlett was then working as a porter and Hardy was Acting Warden. He remained in touch with him and his family through the many vicissitudes of Bartlett's career and was known to the children as 'Uncle Prof.' The letters, from Bartlett, his children and others, run from 1940 to 1985 showing Hardy's solicitude and unwearying attempts by precept, gifts, visits and interventions to establish a stable way of life for him. Several of Hardy's later letters are of interest for their autobiographical content and exposition of his spiritual views; they survive in longhand drafts or copies laboriously made when he was already in his eighties.

Historical material on the University of Hull

- A.26 Brief correspondence and (part) transcript of Hardy's taped recollections recorded for the history project for the 50th anniversary of the foundation of the University College, 1971.
- A.27 Correspondence with author and with C.E. Lucas on University history project, with special reference to Chapter 5 'Success and failure: two case studies'. Includes draft chapter, and detailed comments by Hardy and Lucas, 1976-77.

A.28

'Notes on Cyril Lucas', written by Hardy at request of Public Orator (J.G. Phillips) for conferment of Honorary Doctorate on Lucas, 1978.

3 pp. typescript recollections, mainly on plankton research; includes reference to shipwreck of <u>Christine Rose</u> expedition off West of Scotland in 1941.

Also included here are Lucas's own recollections of early years (1929-37) at Hull, n.d.

A.29 'Sir Alister Hardy's reminiscences of the early days of the Department of Zoology at the University of Hull.'

> 47 pp. typescript with manuscript corrections, contributed at the request of J.G. Phillips and H.B. Miles for a proposed history of the Zoology department from its inception in 1928.

> Includes material on the circumstances of Hardy's appointment, building design, teaching load, early colleagues, museum and library, plankton research, kite-flying and aerial plankton, Hardy's acceptance of the Regius Chair at Aberdeen and the transfer of oceanographic work to Edinburgh as the Oceanographic Laboratory of the Scottish Marine Biological Association. See also B.12, B.13.

> Correspondence 1981-84 with Phillips and Miles is also included.

- A.30 Copy of the history. Special mention is made in the Foreword of Hardy's assistance.
- A.31 Printed matter relating to the foundation and early history of University College Hull and to Hardy's work there.

Miscellaneous biographical material 1930s

A.32 Royal Naval Review at Spithead 1935; invitation aboard Discovery, plan of review.

Correspondence on proposed Biological Station at Bermuda to be built by the Rockefeller Foundation and offer to Hardy of post as first Director. These are Hardy's own manuscript copies of letters to him by 'J.S.H.' (Huxley) and 'E.J.A.' (? E.J. Ashworth) n.d. [1930] see letter of 5 June 1937 to J. Ellerman at B.117.

Correspondence on award of first Scientific Medal of Zoological Society of London 1939.

The 'Christine Rose'

A.33 This was a steam trawler engaged on a research project to investigate the possibility of using marine plankton as a source of food, which sank off the West of Kintyre on 10 September 1941 with the loss of the captain and four members of the crew.

> Material includes certificate of loss of belongings, draft note by Hardy for <u>Nature</u>, Hardy's list of crew members, letters from next of kin of lost crew to whom he had sent letters of condolence and money (addressed to nursing home where he was recuperating).

Aberdeen University

For earlier correspondence about the Regius Chair at Aberdeen, see A.19.

- A.34 Warrant of appointment 1942.
- A.35 Montage of photographs of Natural History Museum of University sent to Hardy 1949.
- A.36 Hardy's Inaugural Address 'Natural history old and new' delivered 28 April 1942, with Hardy's reflections on human ecology and evolutionary theory. Copy with some later revisions by Hardy. Also includes his correspondence 1982 arranging for copies to be sent to UK copyright libraries because of the relevance of the lecture to his later work.
- A.37 Letters of thanks for copies of original address, some with personal or scientific news.
- A.38 Conferment of Hon. Ll.D. 1962.
- A.39 Letters from Aberdeen Laboratory staff and their families.

Glasgow University

A.40 Offer of Chair of Zoology, 1944.

Oxford University

- A.41 Preliminary correspondence and approaches to Hardy about the Linacre Chair of Zoology, February-July 1945.
- A.42 Hardy's application for Chair, letter of appointment July 1945, miscellaneous material on FSSU, salary.
- A.43 Letters and telegrams of congratulation, described as 'selection from the many ... received', some with personal or scientific news, 1945.
- A.44 General correspondence on the affairs and organisation of the Oxford Department 1945-48; scientific correspondence, Hope Professorship, ecological studies in America etc.
- A.45 General shorter correspondence on affairs of Department 1957-71.
- A.46 Correspondence and papers on Hardy's retirement, the Linacre Chair, the organisation of biological studies at Oxford and the new Zoology building 1959-63.
- A.47 Letters from Oxford Laboratory staff and their families.
- A.48 Miscellaneous material on Oxford Department 1947-77, including presentation of the triple portrait of Hardy, J.R. Baker and E.B. Ford in the new building 1972. See also F.34, F.35.

British Museum of Natural History

A.49 Correspondence 1946-47 when Hardy was asked to consider the post of Director.

Honours 1949-57

A.50 Election to Athenaeum 1949. Hon. Fellowship, Zoological Society of India 1956. Knighthood 1957.

Honours 1961-84

A.51 Hon. Life Member, New York Academy of Sciences 1961.
Hon. D.Sc., University of Southampton 1962.
Hon. Membership, British Ecological Society 1963.
Hon. Fellowship, Merton College Oxford 1964.
Vice-Presidency, World Congress of Faiths 1979.
Vice-Presidency, Scottish Marine Biological Association 1984.

Charities

A.52 Miscellaneous subscriptions and charities. Includes correspondence re Hardy's regular donations to St Giles Church Oxford; in his letter of October 1956 he explains his practice of calling there most mornings on his way to work, though feeling 'more at ease theologically' for public worship at Manchester College.

Hardy's death

A.53 Letters of condolence on Hardy's death 1985. (Few survive from the very large number received.)

A.54

Recollections of Hardy, sent to N.B. Marshall (author of Royal Society Memoir of Hardy) and passed on by him; from P. Brunet, C. Elton, J.R. Lucas, H.N. Southern, T.R.E. Southwood, N. Tinbergen.

AUTOBIOGRAPHY A.55, A.56

Hardy had intended to write a full autobiography to complement the various accounts of separate episodes of his life already published. He drew up plans and chapter headings and had many photographs prepared from manuscripts, letters, drawings or press-cuttings already in his files (see F.48). He envisaged a two-volume production, to be called 'For fun and for joy' and 'More fun and greater joy' with the subtitle 'An Autobiography of a life of many experiences and adventures, but governed by a teen-age vow'. Later the title 'A Life with a vow' was adopted and Hardy began dictating the work to Anita Dunn. The surviving document is typescript with some manuscript corrections by Hardy.

A.55

'A Life with a vow'

Introduction i-ii

Chapter l	The honeysuckle and the bee – childhood wonder pp. 1–18
Chapter 2	Airships and flying machines pp. 19–27
Chapter 3	Pack up your traps pp. 28-32
Chapter 4	Oundle pp. 33–44 with two additional pages
Chapter 5	1914 - War and the vow pp. 45-54
Chapter 6	Beloved company pp.55-65
Chapter 7	Camouflage pp.66-70
Chapter 8	Oxford 1919-1920 pp. 71-82
Chapter 9	Naples pp. 83–89
Chapter 10	Fisheries research, Lowestoft 1921–1924 pp. 90–105
Chapter 11	R.R.S. Discovery — preparing for the voyage pp. 106—112
Chapter 13	Flying for fish (pages not numbered)
Chapter 33	My mermaid (pp. 7)

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Also included are various chapter-headings and draft introduction for 'For fun and for joy', notes of episodes to be included etc., and a duplicate copy of Hardy's letter of 1 December 1977 (also at C.51) outlining his intentions and proposed method for the autobiography.

A.56 Miscellaneous biographical notes prepared by Hardy at different dates.

MISCELLANEOUS A.57

A.57 Includes:

Shorter personal correspondence, various dates 1925-85.

Envelope of photographs and documents found in Hardy's wallet and of special value to him.

Passports.

Envelope of obituaries of friends and colleagues, many written by Hardy.

Miscellaneous memorabilia.

Obituaries of Hardy.

Press cuttings.

SECTION B

B.1-B.67	Research Projects
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ZOOLOGY AND MARINE BIOLOGY

B.1-B.167

RESEARCH PROJECTS B.1-B.67

In chronological order of the surviving dated material.

PRIAPULUS

Hardy was able to obtain specimens of this rare worm in Essex and won the Christopher Welch Scholarship in 1920 largely to conduct research on them. He drafted a paper, but did not publish it. During his period at Hull he continued his interest in the work, which was carried out by M. Tazelaar on specimens provided from various sources on the Essex mudflats.

B.1 'Notes on the habits, reproductive and excretory organs, and early stages in the development of Priapulus caudatus.'

Manuscript draft with manuscript corrections by Hardy and marginal comments signed 'FJL' (probably F.J. Lambert who obtained specimens for Hardy in the 1930s. See correspondence). 13pp, acknowledgments, references. With a note from Hardy passing on the material 1926 (no indication of recipient).

- B.2 Hardy's notes on the literature.
- B.3 Experimental notes probably 1920.

Drawings and diagrams, some dated 1920, 1931, most undated.

- B.4 Correspondence 1920 re location of specimens.
- B.5 Later correspondence 1931-40 on <u>Priapulus</u> research, location of specimens; includes correspondence with E.S. Goodrich to whom Hardy sent his early drawings and notes.
- B.6 Manuscript draft for a lecture by Hardy on Priapuloidea, Spinunculoidea (a worm which he had studied at Stazione Zoologica Naples) and other larval forms.

PLANKTON

This was the principal subject of Hardy's scientific work, begun in 1921 at the Fisheries Research Laboratory, Lowestoft. It prompted him to invent the plankton indicator and, later, the Continuous Plankton Recorder (CPR) which has continued in use, in modified form, as a tool of oceanographical research.

The surviving material is presented in chronological order of topic, and may include drawings, photographs, drafts and correspondence. Photographs of the recorder in use at sea and in the laboratory, and of the fishing fleets working out of the east coast ports of Britain are held at Lowestoft. Photographs of the recorder in use on the <u>Discovery</u> expedition, and the original drawings, are at F.16 and F.49 respectively.

Plankton and herring

B.7 Cruise XXXIV of S.S. George Bligh, 22-30 March 1922. This was the cruise when Hardy was in charge because of the illness of W. Wallace and used a spare day to conduct a multiple sampling over 24 hours from the same station. The wide variation in plankton distribution which he thus discovered was of great importance in prompting him to devise a continuous recording instrument (Memoir p. 230).

> Material includes 'programme' for cruise, Hardy's manuscript report on his findings 30 March 1922, his scheme for a '24 Hours station experiment' 14 February 1923, diagrams of fluctuation observed on original experiment, photographs of 'patchiness of North Sea plankton', plankton identification charts.

B.8 Early papers on plankton.

'The study of plankton in relation to the food of the herring', to Challenger Society June 1922.

'Plankton in relation to the food of the herring', British Association September 1923.

'Notes on plankton'.

B.9 Hardy's patent no. 205260, for 'An instrument for use on fishing boats to indicate the probable presence or absence of pelagic fish (Herring, Mackerel and the like)', August 1922.

Plankton Indicator and Continuous Recorder

- B.10 Material commemorating first successful tow of recorder by commercial ship from Hull to Bremen, 1931. Includes signed dinner menu, drawings of recorder and plankton variations, and earlier letter 1927 from M.I. Denne who made the first recorder (see Hardy's Autobiography).
- B.ll Material 1934 re The Hardy Patent Plankton Indicator for commercial fishing.
- B.12, B.13 Correspondence, reports and papers September 1948 March 1951 relating to continuing plankton recording at Hull and its transfer from Hull to the Scottish Marine Biological Association Oceanographic Laboratory, Leith, Edinburgh.

Hardy felt that this transfer, and his part in it, had been misunderstood and unfavourably interpreted and he was particularly concerned that the matter should be correctly set out in the Hull Departmental history (see A.29).

The correspondence is exchanged with the Universities of Hull and Edinburgh, the Development Commission, and with research colleagues.

- B.12 1948-49. Hardy's letter 6 May 1949 to the Principal of Hull explains his thinking about the move to Leith and the history, financing and possible future of oceanographical research at Hull.
- B.13 1950-51. Includes Hardy's farewell letter to the staff 31 March 1950.
- B.14 Material <u>re</u> working scale model of plankton recorder made at Government Training Centre Leicester 1951 and presented to Hardy. Includes photographs, correspondence with manager and with all trainees involved, and later material 1960 <u>re</u> retirement of manager which Hardy attended.
- B.15 'My long association with the Hardy Continuous Plankton Recorder'. 80pp typescript account by J.M. Scrivener, Laboratory Steward at Hull from 1936 and later at Edinburgh. 1975.

- B.16 Correspondence etc. with Science Museum London 1976-77, 1981 on original CPR displayed in new Geophysics and Oceanography Gallery.
- B.17 Miscellaneous correspondence on plankton recorder.

1945 (early work by J.V. Thompson).

- 1959 (recorder on submarine).
- 1963 (plankton in Indian Ocean).
- 1977 (opening of Institute for Marine Environmental Research, Plymouth, where work was transferred from Edinburgh).

Aerial plankton/insect drift

B.18 This work began in the early 1930s somewhat hazardously using kites on land, and later using collecting nets or kites flown from the research ship <u>George Bligh</u>. The work was resumed in 1947 using ships and helicopters.

> Material includes small notebook of observations on <u>George Bligh</u> 3-9 August 1937 (not in Hardy's hand), and some later notes May 1945 on vertical distribution of plankton, correspondence and reports on 'Sky-Insect-Irap' with RAF personnel on helicopter observations, copy of <u>Punch</u> article on ship observations on Newhaven-Dieppe crossing (not otherwise documented).

> For photographs of Hardy's experiments on aerial plankton (all dates) see F.5, F.6.

Plankton as a source of food

This was a wartime project, mainly triggered by articles and Parliamentary questions by Sir John Graham Kerr, which Hardy developed via an article in Nature (June 1941) into a research proposal funded by the Agricultural Research Council. The work began in August 1941 but was cut short in September by the loss of one of the vessels, the <u>Christine Rose</u>, with the loss of the skipper and four of the crew. Investigations continued in 1942 and 1943 but were brought to an end in July 1943 as the plankton yield appeared to be declining and to offer little prospect of an economic harvest.

- B.19 Correspondence and papers April-August 1941, including exchanges with Graham Kerr, Hardy's <u>Nature</u> article and research proposal, negotiations with Agricultural Research Council and other official bodies, and with scientific colleagues on various aspects of research.
- B.20 Correspondence on equipment, mainly special netting required.
- B.21 Correspondence September-November 1941 following shipwreck, including medical certificate for Hardy 'suffering from an extreme form of debility both physical and nervous'.
- B.22 Correspondence and papers 1942-44 on continuation of investigations. Includes Hardy's 'Brief note on experiments . . . ' July 1943, and his unpublished report to the ARC 'Investigations (1941-43) into the possible use of plankton for the feeding of animal stocks' (2 copies, one with extensive deletions and corrections).
- B.23 Observations and data 1941-43. Background material, some unpublished.
- B.24 Costs and expenses.
- B.25 Shorter later correspondence on plankton as food 1949, 1954.
- B.26 Hardy's 'Diary and proceedings' of the origins, setting-up and research of 1941 expedition, up to and including the loss of the Christine Rose.

Vertical migration

Two small notebooks of observations at various points off coast of Scotland.

B.27 22 May - 27 August 1942.

B.28 16-29 September 1942, 1 May - 3 July 1943.

For photographs of this work, and of Hardy's assistant W.N. Paton, see F.4, F.7-F.10.

THE DISCOVERY EXPEDITION

Preparatory work

Hardy describes much of this work in his draft autobiography, Chapter 11 R.R.S. Discovery - preparing for the voyage and also in <u>Great Waters</u>.

- B.29 Album 'Notes from the "Michael Sars" July 1924'. This was the research ship (spelt <u>Mikel Saars</u> in the autobiography) of Johann Hjort the Norwegian oceanographer with whom Hardy spent six weeks planning and making detailed drawings of equipment. The album contains photographs and pen and ink drawings.
- B.30 Album of photographs taken during summer 1924, including testing of whale-marking gun and 'crossbow', of <u>Michael Sars</u> equipment and gear, Hardy's tour of Iceland, ascent of Mount Hekla where he found a specimen of <u>Epsilia quadrangula</u> not recorded at that altitude.
- B.31 Loose papers from B.30; include water-colours by Hardy, presscutting, map of Mount Hekla and letter from E.B. Poulton about moth specimen.
- B.32 Drawings for 'Arctic and Antarctic Plankton-Boats', probably made on Michael Sars, and two letters 1924, 1928 from J. Hjort.
- B.33 Hardy's original sketches 1924 for the shore laboratory at South Georgia, and the original blueprint made from them August 1924 sent to Hardy as a gift from the British Antarctic Survey in 1969.

B.34 Deck plans and drawings, some by Hardy.

Charts and diagrams some by, or annotated by Hardy.

B.35 Report of the Interdepartmental Committee on Research and Development in ... the Falkland Islands, HMSO 1920. Hardy's own copy, with some marginal scoring of sections relating to work on whales.

B.36 General regulations and instructions for the <u>Discovery</u> expedition.

Hardy's Journals and reports

'The Private Diaries of A.C. Hardy. R.R.S. Discovery 1925-1927'.

Two large ledger-type volumes, closely written in pen, with considerable revision, deletion and editorial work in pencil probably added when the material was revised for Great Waters.

- B.37 Volume 1 pp. 1-300. 24 September 1925 25 April 1927.
- B.38 Volume 2 pp. 301-376. 25 April 9 September 1927.
- B.39 'Second report on the scientific work of the R.R.S. <u>William</u> Scoresby' for period 16 December 1926 - 31 January 1927. Hardy's original 10 pp. manuscript, and later typed-up version.
- B.40 'Fourth report of the scientific work of the R.R.S. <u>William</u> Scoresby' for period 11 May - 30 June 1927. Hardy's manuscript and typed-up version.

'Report on damage done in the deck laboratory ... upon defects and deficiencies in the scientific fittings and equipment generally on the <u>William Scoresby</u>', n.d. but sent with above.

'Description of Wilson Harbour', n.d. [1927].

B.41 Miscellaneous press-cuttings on Discovery expedition.

Great Waters

Hardy's account (Collins 1967) of the <u>Discovery</u> expedition, based on his journals and other contemporary material, and on the published Discovery reports.

B.42 Miscellaneous data, notes and drawings assembled or made for book.

Included here is correspondence 1937-62 with Methuen & Company whose editor E.V. Rieu had been in contact with Hardy since 1937 with a view to publishing his book (Antarctic Natural History). Later the company felt less interested in the project and the book was published by Collins.

- B.43 Correspondence with colleagues in preparation for book, information, permission to quote or reproduce diagrams, comments on draft. Various dates 1962-67. Includes some recollections of expedition, photographs etc.
- B.44 Errata lists, Hardy's list of those receiving complimentary copies, letters of thanks from readers, some with personal recollections or scientific information/queries and some with Hardy's replies.
- B.45 Phi Beta Kappa Award in Science, made in 1968 for Great Waters. Correspondence, draft of Hardy's speech of acceptance (read on his behalf).
- B.46 Reviews of book.

Later Discovery correspondence and material

B.47 1965. On J.R. Stenhouse, Captain of <u>Discovery</u>; includes photograph (1941), and original sketch of ship off South Shetland, by Stenhouse April 1927.

1976. On 'crossbow' for whale-marking (see also B.30).

- B.48 1979. Mainly on project to refit and restore <u>Discovery</u> as floating museum as part of National Maritime Museum, colloquium on project (Hardy attended and spoke, photographs included), map showing 'Hardy Point' on Bellingshausen Island, Hardy's drafts for display material etc.
- B.49 1980. Hardy's gift of watercolours and photographs of expedition to National Maritime Museum, second <u>Discovery</u> colloquium (includes photograph).
- B.50 1981-83. Continuing correspondence, mainly with National Maritime Museum and Maritime Trust.
- B.51 1977-84. Miscellaneous correspondence with <u>Discovery</u> colleagues and historians of Antarctica. For photographs of the <u>Discovery</u> expedition and its history, see F.11-F.20.

MOTHS AND THE MOON

B.52 Records of three experiments September 1947 and September 1948 to investigate possible effects of light on insects, using balloons and ground observers, conducted at Weston-on-the-Green, Oxford (see <u>Memoir</u> p. 245). The descriptive title is Hardy's own.

HERRING

B.53 'A programme of herring research', prepared by Hardy for Ministry of Agriculture and Fisheries 1944, address on same topic October 1949, minutes of Herring Group meetings (chaired by Hardy) 1949, 1951.

ZEBRA COLORATION

B.54 Correspondence, photographs and papers 1959-76 on zebra coloration and its relation to 'dazzle' camouflage. Includes exchange of correspondence with N. Tinbergen December 1964 in which Hardy explains his ideas on illusion patterning. See also his lectures on camouflage and animal coloration at B.72.

KRILL

B.55 1960-63. Correspondence on preparation of report on Antarctic krill by J. Marr, and on Hardy's Great Waters.

1965. Correspondence arising from Hardy's article on krill in New Scientist, July 1965.

B.56 Material relating to Symposium on Antarctic Oceanography, Santiago, Chile, September 1966, which Hardy attended as a delegate of the Royal Society, delivering a paper 'The production, distribution and possible exploitation of the Antarctic krill'. The paper was not published at the time and Hardy submitted it for inclusion in the proceedings of a subsequent conference in 1976. See G. Deacon's letter returning the paper in B.57.

Included here is a provisional patent specification filed on 26 January 1967 for 'A device for the capture of fish, krill etc. by a combination of nets and pumps'.

B.57

Later correspondence and material on krill harvesting 1976-79.

LOCH NESS MONSTER

B.58 Correspondence, photographs and other material mainly 1960-62 including minutes of meeting at Linnean Society April 1961 and separate reports by C.F.A. Pantin and Hardy.

AQUATIC MAN

Hardy published only short papers on the possible aquatic past of man, though there were tentative plans for an extended work in collaboration with Desmond Morris during the 1970s. The ideas of the earlier papers, which were widely disseminated, aroused interest among researchers and were a material factor in the popular accounts The descent of woman and The aquatic ape, by E. Morgan (see B.63).

Much of the material consists of correspondence with colleagues and researchers, drafts of papers, comments by Hardy etc.

NCUACS 5/4/88 A.C. Hardy 35 Copies of Hardy's published articles on aquatic man (New Scientist April 1960, The Listener May 1960, Zenith 1977), B.59 presented with linking material for publication as an appendix to The aquatic ape. Miscellaneous manuscript notes by Hardy. B.60 Cunnane, S.C. Correspondence, drafts, Hardy's comments 1977-79. B.61 Harries, H.C. 1979 \$ Kurtén, B. B.62 La Lumière, L.P. and others. Correspondence, drafts, Hardy's comments 1980-83. B.63 Morgan, E. and others. 1979-85, mainly on the writing and reception of The aquatic ape, Hardy's foreword etc. Hardy's and Morris's letters of February 1979 refer to plans for a book by D. Morris provisionally called Aquatic man: the Hardy theory reexamined. B.64 Morris, D. 1979-85. B.65 Sherry, B.J. 1982. B.66 Wescott, R.W. 1979-83. B.67 Miscellaneous shorter correspondence.

LECTURES, PUBLICATIONS, BROADCASTS B.68-B.95

LECTURES

Very few lecture scripts survive. Those that do are mainly for university courses, all manuscript and with drawings or diagrams by Hardy, sometimes given from year to year with additions and updating, and in consequence very difficult to date.

B.68 'Modern whaling', 25 September 1930. 7pp. manuscript.

'Principles and problems of pelagic ecology'. Course of three special lectures, University College London, November 1934 (Notice only. Not otherwise documented.)

- B.69 'Animal distribution'. Lectures 4 (Coral reefs and islands), 8 (The tropical forest), 9-13 (Zoogeographical regions), 14 (Land bridges), 15 (Island faunas) of a course, n.d. Material on coral reefs incorporates later talk on 'Visit to a coral reef' on occasion of Pacific Science Congress in 1957 (see B.100).
- B.70 'The Mechanics of animal design', n.d.
- B.71 'Larval forms'. Notes and diagrams of several dates, incorporating some verses by Garstang, Hardy's notes of lecture on larval forms by Garstang, Plymouth 1920, and notes by him for a lecture on 'The Idea of Paedomorphosis'. See B.83 re his publication of Garstang's verses.
- B.72 'Animal coloration'. Notes, drawings and material, perhaps 1930s (cf. B.54). Includes brief notes for a talk on 'Camouflage in nature and war' and Hardy's water-colour drawings and photographs (marked 'Secret') for camouflaged road-blocks on main roads into Oxford, on Hull University writing-paper and probably done before Second World War.
- B.73 'Heads or Tales?'. Notes and material for a paper given to The Bodley Club, Merton College Oxford May 1950.

- B.74 Hardy's introduction to 'The Final Honours Course in Zoology at Oxford University' for advanced class undergraduates, October 1951.
- B.75 'Natural History as a Science and its Importance to Man'. Manuscript notes and drawings for lecture at University of Singapore 1953. See B.96-B.98.
- B.76 'Toward prediction in the sea'. Paper given at Symposium on 'Perspectives in Marine Biology', Scripps Institution of Oceanography 1956. Text prepared for publication but not listed in Bibliography of Memoir. See B.99.
- B.77 'General Morphology'. Notes, drawings and material for a course of six lectures given at Oxford, n.d. 1950s.
- B.78 'Evolution'. Notes, drafts, drawings, reading lists for a course of sixteen lectures given at Oxford, n.d. 1950s with updated references to 1960.

Also includes notice and reading list for a course of five lectures on evolution given by Hardy for University of Oxford Institute of Education 1958, and miscellaneous unattributed notes and drafts.

B.79 'Biological Oceanography'. Syllabus, notes, drafts, drawings, reading lists for a course of sixteen lectures given at Oxford, n.d. 1950s with updated references to 1962.

Also includes miscellaneous manuscript notes and diagrams, mainly on sea floor sampling.

- B.80, B.81 'Thomas Linacre his life and influence'. Lecture given in 1960, Linacre's quincentenary.
- B.80 Heavily corrected variously-paginated manuscript draft.
- B.81 Background information on Linacre, including Thomas Linacre School Wigan where Hardy gave the Speech Day address November 1954 (programme enclosed).

B.82 Brief notes by Hardy on his lectures at Oxford, and suggestions for examination questions.

PUBLICATIONS

No manuscript material survives for most of Hardy's scientific publications. For his book <u>Great Waters</u> on the <u>Discovery</u> expedition, see B.42-B.46.

Larval Forms

This was a collection of 'zoological verses' by Walter Garstang, Hardy's father-in-law. Hardy collected and edited them in 1951, contributing an introductory essay on Garstang's theory of paedomorphosis, the importance of which from an evolutionary point of view he thought insufficiently well known. The publisher was B.H. Blackwell.

B.83 Correspondence 1951-80 with colleagues, family and publisher, royalty statements etc.

The Open Sea

Hardy was first invited to contribute a book of this title to Collins 'New Naturalist' series in 1943 by Julian Huxley who was then on the editorial board. A contract was signed in 1943 and arrangements made for Hardy's own water-colours to be used as illustrations, with photographs by the distinguished marine photographer D.P. Wilson. When Hardy's manuscript was finally completed (1956) it greatly exceeded the series length and the decision was taken to present it in two volumes - <u>The World of plankton</u> (1956) and <u>Fish and Fisheries</u> (1959). The books were very popular, with American and paperback editions.

Vol.I The World of plankton

- B.84 Correspondence with colleagues sending information, photographs, specimens etc. 1952-56. In alphabetical order.
- B.85 Comments on book, suggestions for corrections, Hardy's errata lists 1956-58. In alphabetical order.
- B.86 Letters of thanks for complimentary copies 1956.

Vol.II Fish and Fisheries

- B.87 Correspondence with colleagues sending information, specimens etc. 1957-58. In alphabetical order.
- B.88 Comments on book, suggestions for corrections, letters of thanks etc. 1959-60. In alphabetical order. Also a little later correspondence from readers 1968-84.

Collins Publishers

B.89 Correspondence with publishers and editors, contracts, later editions etc. 1943-84.

Reviews

B.90 Press-cuttings of Vols.I and II.

Illustrations

B.91 Drawings, figures, plates, mostly Hardy's originals, also some of D.P. Wilson's photographs used as plates.

Miscellaneous

B.92 Miscellaneous shorter correspondence with publishers and editors on projected books and writings 1964, 1981, 1983.

Royalties

B.93 Folder of royalty statements and information, all dates, on both scientific and religious publications.

BROADCASTS

B.94	1930. BBC talk 'Catching whales', version published in <u>The</u> Listener 1 October.
	1931. BBC series of six talks 'Our food from the sea', versions published in <u>The Listener</u> April-May.
B.95	1960. BBC TV 'Eye on research' (correspondence only).
	1961. Granada TV (correspondence only).
	1981. BBC Natural History Unit (Aerial plankton - correspondence only).
	1982. Central TV 'Nature Watch' (correspondence only).
	1984. Golden Dolphin Productions (aquatic ape — correspondence only).

VISITS AND EXPEDITIONS B.96-B.106

Far East 1953-54

The main purpose of the visit was to Hong Kong for the launch of the research vessel <u>Alister Hardy</u> built for the University's fishery research department. Hardy also attended the Pan-Pacific-Congress in Manila as a Royal Society delegate, and visited Singapore, the Philippines and Ceylon.

- B.96 Iravel arrangements and schedules, Hardy's sketch maps of places visited.
- B.97 Hardy's preliminary circular letter outlining tour, letters to Department and to family, letter from Hong Kong colleague.
- B.98 Lecture notes.

For photographs of the journey and the <u>Alister Hardy</u> see F.21-F.24. For a film of the launch, see F.55.

USA 1956

B.99 Schedule and personal material only. See B.76 for lecture given at Scripps Institution during visit.

Far East 1957

B.100 Papers, correspondence, travel schedules etc. re Ninth Pacific Science Congress Bangkok (Hardy attended as Royal Society delegate), British Council lecture tour in Japan via Pakistan and other visits en route.

World Tour 1961

This included attendance at Tenth Pacific Science Congress, Honolulu as Royal Society Delegate, visits to Fiji, Australia, New Zealand, Canada lecturing and visiting institutions and colleagues.

- B.101 Travel schedules, Hardy's speech of thanks at Congress, visit to Fiji.
- B.102 Visits in Australia.
- B.103 Visits in New Zealand and Canada.

Te Vega Expedition 1965

The <u>Te Vega</u> was a research schooner used for graduate student cruises under the Hopkins Marine Station of Stanford University California. Hardy joined Cruise 8 in September 1965 as Visiting Professor, lecturing on plankton biology, zoology of plankton animals, aquatic man etc.

B.104 Correspondence and papers, invitation, appointment, organisation and arrangements, reports on expedition, exchanges with crew members etc.

For photographs of the expedition see F.28, F.29.

West Indies 1968

B.105 Brief correspondence on visit and lectures.

Pelagic Biogeography Conference Amsterdam 1985

B.106 Correspondence and papers. Hardy accepted nomination to the Comité d'Honneur.

CORRESPONDENCE B.107-B.155

The surviving correspondence is unlikely to be more than a small proportion of that received by Hardy. There is, for example, almost no official correspondence relating to his University Departments, to professional organisations, learned societies, committees or advisory boards on which he served.

Although there are a few more substantial exchanges, many of the letters are incoming only; even when the content is primarily scientific, the tone almost always reflects the warmth and enthusiasm engenderd by Hardy's own personality. Personal news, or photographs, may also feature and Hardy's late letters - such as remain - often include news of his publishing commitments and of his research on religious questions.

B.107	Bahl, K.N. and Bahl, K. 1942-44
	An Indian zoologist who had studied at Oxford 1919-21; Hardy acted as guardian to his son during his war service.
B.108	Baker, J.R. 1920-22, 1928, 1958, 1962, 1970, 1981 Early Oxford research and career etc.
B.109	Barrington, M.R. 1969 Factory farming
B.110	Bencke, H. 1967
B.111	Bisset, K.A. 1954 Ciliate protozoa
B.112	Burkhardt, R.W. 1983 Taped discussion with D. Morris. See F.53.
B.113	Burt, C. 1968

B.114 Chen, C. and others

A Chinese colleague working on plankton, whose relations with Hardy were broken by political factors and resumed only towards the end of their lives.

B.115 Deacon, G.E.R.

Correspondence 1967 is re H. Herdman, hydrologist on Discovery.

B.116 Denis, A.G.

Hardy met Armand Denis, a Belgian zoologist with private means, at Naples and they maintained close relations for some years, Denis sharing Hardy's interests in spiritual and ethical as well as scientific matters. Early letters include comments on Hardy's 'Osmic Jones' (E.30). Later Denis became well-known for film and television work on animal life.

The letters continue relatively regularly to 1933; miscellaneous cards and letters, not all dated, continue into the 1950s. Photographs of Denis are included at F.4.

B.117 Ellerman, J.

Sir John Ellerman was a wealthy but reclusive magnate with a serious interest in zoology. His father, from whom he inherited a fortune in 1933, was born in Hull and founded the Ellerman Lines. Hardy encouraged Ellerman's research on small mammals, especially rodents on which he eventually published standard works. Ellerman, for his part, supported Hardy's oceanographical research at Hull, providing additional funds in 1936 when the move to Aberdeen was first bruited and the help of the shipping line for fishery investigations, and later made a donation to the Oxford department.

The letters (mostly from Ellerman but with a few of Hardy's drafts) are mainly on the progress of Ellerman's research and show the mutual help he and Hardy gave each other and the friendly basis of their relations. Hardy's letters of 5 June 1937, 30 October 1945, September-October 1948 are of special interest in setting out various research proposals.

B.118 Ford, E.B.

B.119 Galbraith, V.H.

Sir James Gray's paper on science in education.

1966

1948-54, 1982-85

1922-1950s

1967, 1985

NCUACS 5/4/88	A.C. Hardy 45
B.120	Gardiner, W.A.C. 1922-43
	Gardiner was a hydrobiologist, educated at Oundle, who had worked at Lowestoft and elsewhere though his scientific career was interrupted by illness. Includes letters from Gardiner's family after his death, and reflections on science teaching at Oundle.
D 121	
8.121	Garrett, F.C. 1918-27
B.122	Garstang, W. 1929, 1943, 1949, 1954, 1980-83
	Only one letter (1943) from Garstang (Hardy's father-in-law); later correspondence is recollections or historical enquiries. Item of 1929 is humorous verse on Hardy's museum at Hull. See F.32.
B.123	
0.129	Glover, R.S. 1975, 1983-85
B.124	Gunther, E.R. 1927-28, 1949
	Includes letters from Gunther's family after his death.
B.125	<u>re</u> Huxley, J.S. 1980-83
	Huxley had been Hardy's tutor at Oxford, and also tutor to Sylvia Garstang (later Lady Hardy). The material mainly concerns memorials to Huxley and includes Hardy's own 7pp. account 'Some memories of Julian Huxley by Alister Hardy'.
B.126	Jones, F.W. 1943, 1944
	Selection.
B.127	Kemp, S.W. 1937-42, 1945
	Kemp was the leader of the <u>Discovery</u> expedition; includes letters from family after Kemp's death.

B)			
NCU	IACS 5/4/88	A.C. Hardy	46
B.1	.28	Klingender, F.D.	1942
		'Dialectical materialism', arising from Hardy's lecture at Aberdeen.	Inaugural
в.1	.29	Land, M.	1979
	1	Gigantocypris	
B.1	.30	Lucas, C.E.	1981, 1983
B.1	.31	Mackie, G.	1962
		Publication	
B.]	132	Marshall, S.	1962
B.1	133	Matthews, J.	1981
		History of whaling.	
B.1	134	Medawar, P.B.	1949, 1951
		Oxford Zoology Department, religion, appointments.	
			10/0
B.)	135	Nicholson, E.M. Turning in flocks of birds.	1968
B.1	136	Parks, P.	1962, 1969
в.:	137	Paton, W.N.	1941-47
		Paton was a young marine biologist who had worked with vertical migration of plankton shortly before the st Second World War in which he served with the Fle before being reported missing in June 1942. Includ letters from Paton, and letters from family and collec his death and Hardy's obituary notice of him. See B.28. F.4. F.7-F.10.	art of the et Air Arm es wartime agues after

NCUACS 5/4/88	A.C. Hardy	47
B.138	Peitzmeier, J.	1968
	Evolution in birds.	
	일일에서 가장을 가지 못했다.	
B.139	Polanyi, M.	1957
	Genes and homology	
B.140	Ride, W.D.L.	1963, 1977, 1982
	Correspondence 1977 is on the early work o <u>Thylacinus</u> and Hardy's wish to have it completed	of B. Tucker on
B.141	Ritterbush, P.C.	1968
	Herring and environment.	
B.142	Seward, M.	1984
B.143	Smith, A.J.F.	1976-79
	Expeditions etc., mainly on blind fish.	
B.144	Smullen, I.	1984
	Animal coloration.	2,01
B.145	Sutherland, J.M.	1984
	Turtle expedition.	
B.146	Tabrett, K.P.	1954
	Fishing methods in Borneo.	
B.147	Tazelaar, M.A.	1981
	Hardy's assistant at Hull. Mainly personal news	

NCUACS 5/4/88	A.C. Hardy	48
B.148	Thorsen, G.	1960
B.149	Tinbergen, N. and others	1958, 1962, 1975, n.d.
B.150	Totton, A.K.	1954
	Hippopodius	
B.151	Tucker, D.	1958-63
	Scientific and personal correspondence.	
B.152	Vickers, C.G.	1923-27, 1949, 1951
	Vickers was a slightly older contempora and shared his interests in sketching, be inventions, and also in spiritual math letters in 1927 is of special interest for his views and aims for the future 'to est the mystical by the scientific method Vickers was best man at Hardy's wedding 1	allooning and ingenious ters. The exchange of or Hardy's exposition of tablish the reality of ' and Vickers's reply.
B.153	Victor, A.O. and others	1956–59
	Sealers.	
B.154	Yonge, C.M.	1982
B.155	Shorter unindexed correspondence	1940-83

REFERENCES AND RECOMMENDATIONS B.156-B.167

B.156-B.166 Correspondence relating to theses, research grants and proposals, university and other appointments.

B.156	1961			B.161	1966
B.157	1962			B.162	1967
B.158	1963			B.163	1968-69
B.159	1964			B.164	1970
B.160	1965			B.165	1971-73
		B.166	1975-78		

B.167 Individual/personal requests for advice on career or for a reference from Hardy, letters of thanks. 1955, 1961-63, 1968.

Introduction

- C.1-C.11 Investigations and Ideas
- C.12-C.65 Lectures, Publications, Broadcasts
- C.66-C.90 Religious Experience Research Unit (RERU)
- C.91-C.110 Correspondence
- C.111 Printed Material

INTRODUCTION

This topic, however difficult to encapsulate in a short form of words, was of immense importance to Hardy. It could indeed be argued that it was of over-riding importance, and that his scientific career was in a sense no more than the establishment of a reputation and solid background from which he could launch a long-prepared project of research into the spiritual nature of man. He had begun collecting evidence of news items on religious or spiritual matters through a press-cutting agency from 1925 and to some extent regarded his carefully fostered friendships with old comrades from the war and later expeditions, shipmates, laboratory staff, boxers and miners as essential features in his understanding of humankind and thus as contributing to his task. Hardy made many references to the shape and priorities of his life as he saw them, and would certainly have elaborated on this theme had he completed his autobiography; a particularly succinct account is given in one of his last public speeches in October 1984 at the opening of the Alister Hardy Religious Research Centre (successor to his Religious Experience Research Unit). Nevertheless, his chosen branch of science - marine biology - with its 'blind' research over vast wastes, its extremes of microscopic and gigantic life-forms, its physical contact with elemental forces was well suited to the mixture of mysticism and boisterous energy in his own nature. The Discovery expedition was a crucial factor here both in determining his future research career and in giving the experience to clarify his spiritual ideas.

It is therefore no accident that the material in this Section follows a very similar pattern to that of the scientific work in Section B. There are investigations extending over a long period of time, lectures, publications, broadcasts and correspondence; a further resemblance is the two-volume major publication of the Gifford Lectures (<u>The living stream</u>, <u>The divine flame</u>) which parallels the two major works on marine biology (<u>The open sea</u>, <u>Great waters</u>). The tally of lectures and writings is considerable and greatly extends the number listed in the Bibliography of the Royal Society Memoir.* In addition,

^{*} A collection of shorter publications on religion is presented at C.111.

there is the crucial component of the Religious Experience Research Unit (RERU) which Hardy established at Manchester College Oxford, financed originally by the royalties from his Gifford Lectures and other religious publications, and enabled to carry on after his death, bearing his name, through his making over of the substantial benefaction of the Templeton Prize for 1985.

Hardy's religion was not of a doctrinal or dogmatic nature. He described himself as a Unitarian and for that reason had had long contact with Manchester College, though his Linacre Chair was at Merton where he was a much-loved member of the Common Room. In writing or speaking on the subject he often used terms such as 'natural theology', 'spiritual awareness', 'the transcendental'; some of his own early investigations were of telepathy, he was President of the Society for Psychical Research, and he retained an interest in the subject (publishing a collaborative book with R. Harvie and A. Koestler in 1973) alongside the attempts to assemble and classify religious experience on scientific principles at the RERU.

The opportunity has been taken to group together at C.1 a selection of material of different dates documenting Hardy's interest in the spiritual or non-material aspects of life and his dissatisfaction with most established forms of religion. In addition, certain of his letters elsewhere in the collection such as those to Sylvia Garstang (A.17), J.S. Huxley (A.19), the Vicar of St. Giles Oxford (A.52), C.G. Vickers (B.152), A. Koestler and P. Toynbee (C.53), H.G. Wells (D.3) should also be consulted. Similar, albeit more summary, discussions or professions of faith are frequent in his later general correspondence.

Many of the stories or planned writings at E.28-E.34 dating from the early 1920s show Hardy attempting to work out some of his ideas in poetic, narrative or fictional form.

INVESTIGATIONS AND IDEAS C.1-C.11

C.1 Miscellaneous material 1923-84 testifying to Hardy's interests, attitude to religion, established churches, social class, aims in life etc.

Includes:

Arrangements with press-cutting agency 1925, 1935.

Letter 1923 (addressee unidentified).

Letters 1925 to NCB comrades and to R. Cowan on social class and friendship.

Correspondence 1937 with Bishop of Hull (H.I. Vodden) on Christianity, theology and faith.

Letter August 1978 to Mrs. K. Buck, autobiographical account of Hardy's ideal to establish friendships across social barriers.

Draft speech October 1984 at press lunch for Alister Hardy Research Centre.

- C.2 Notes and accounts of séances 1916-17, in London and Skegness (Lincs.), mainly with Mrs. Margaret Wedgwood and Dr. W.F. Miller (see C.3) but also with others.
- C.3 Correspondence with W.F. Miller, 29 March 1917 14 January 1920, on 'spiritual rationalism', 'psychic force' etc., mainly from Miller (a doctor at Wainfleet, Lincs.) but a few by Hardy.
- C.4 Correspondence 1917 with Reverend J.R. Trotter, on religious problems.
- C.5 Specimens of automatic script November and December 1918.
- C.6 'Ielepathy'. Folder of drawings of thought-transference experiment; based on early experiments of 1883 and 1885, used and discussed by Hardy in his 1953 lecture to the Society for Psychical Research on 'Biology and Psychical Research'.

- C.7 Photocopies of data of 'precognitive guesses' sent to Hardy 1965.
- C.8 Correspondence on telepathy.
 - 1950 Carpenter, G.D.H.
 - 1953 Murray, G.G.A.
 - 1957 Lack, D.L.
 - 1962 Agnew, A.L.
 - 1967 Williams, C.B.
 - 1970 Rushton, W.A.H.
 - 1973 Rosalind
 - 1979 Gilbert, M.J.
 - 1983 McConnell, R.A.
 - 1984 Playfair, G.L. (Hardy's letter of 6 April explains his altered views on telepathy).
- C.9 Miscellaneous notes, references, quotations, ideas on religion.
- C.10, C.11 Two notebooks, marked 'A' and 'B' kept as commonplace books for ideas and quotations on religious and philosophical topics, c.1925.

LECTURES, PUBLICATIONS, BROADCASTS C.12-C.65

- C.12 'Science in relation to religion', lecture given at Exhall Training College, Coventry, 15 January 1947. Manuscript draft, correspondence, arrangements for a second visit by Hardy to answer questions arising from his lecture.
- C.13 'The faith of a scientist', address at Priestley Hall Leeds, December 1948. Copy of address, comments from colleagues on draft and on published version (Lindsey Press).
- C.14 'Zoology outside the laboratory', Presidential Address to Section D of British Association, 1949. Copy of lecture, press comment, biographical notes prepared by Hardy.
- C.15 Correspondence 1949 re talk on telepathy given by Hardy to Royal Society Club.

Correspondence and programme for Society of Experimental Biology meeting January 1950 at which Hardy chaired a symposium on paranormal phenomena.

- C.16 'Science and Christianity VIII', Hardy's contribution to a series broadcast in BBC European Service August 1955. Transcript of broadcast, photocopy of version published in The Friend.
- C.17 'Religion in a scientific age', draft for lecture at The Hague, 1964.

The Gifford Lectures

The lectures 'on natural theology without reference to creeds', were given by Hardy in the University of Aberdeen. They constitute a major statement, occupying two sessions, each of ten lectures, in the academic years 1963-64 and 1964-65. The published versions, in two volumes, indicate by their sub-titles the somewhat different emphases of the series; the first, <u>The living stream</u> : a restatement of evolution theory and its relation to the spirit of man (1965) and the second, The divine flame : an essay towards a natural history of religion (1966). The books reached a wide public, The living stream being awarded the Lecomte de Noüy Prize (see C.23) and Hardy made over the royalties from these and his other books on religion to establish his Religious Experience Research Unit.

Invitation

C.18	Correspondence, information on Gifford bequest etc., 1962.
	The living stream
C.19	Miscellaneous notes and drafts by Hardy.
C.20	Correspondence with colleagues for information or comments during preparation of lectures 1963-65.
C.21	Hardy's errata lists for published volume and of complimentary copies; correspondence from scientific colleagues, friends and members of public arising from publication, some with detailed replies from Hardy.
C.22	Reviews of The living stream.
C.23	Award of Lecomte du Nouy Prize 1968, and correspondence 1968–71.
C.24	Hardy's original black and white line drawings.
	The divine flame

C.25 Hardy's list of complimentary copies, correspondence from colleagues preceding or following publication, and from readers, some with drafts of Hardy's replies.

C.26 Hardy's lists of acknowledgments and permissions to quote, correspondence with publishing house; syllabus and abstracts of lectures.

C.27 Reviews of The divine flame.

- C.28 'Behaviour as a selective agent a new look at evolution theory', lecture to Section D, British Association, September 1967. Manuscript drafts, summary report.
- C.29 'Theology in the university: an outsider's view', lecture at Conference for teachers of theology in UK Universities, Leeds, December 1967. Manuscript draft.
- C.30 'Marett, anthropology and religion', the Marett Memorial Lecture, Oxford, 9 May 1968. Manuscript draft.
- C.31 'Science and the transcendental', lecture at Manchester College Oxford, 22 May 1968, and to Guild of Pastoral Psychology Conference, Oxford, September 1968. Manuscript draft.
- C.32 'Science and an experimental faith', lecture on work of newlyestablished RERU, n.d. [1968-69]. Notes, 'abridged version'.
- C.33 'A scientist looks at religion', Friday Evening Discourse at Royal Institution, 7 November 1969. Manuscript draft, correspondence. Similar material to C.32.
- C.34 'Is there a future for religious belief?', talk on BBC Third Programme, 17 March 1970. Hardy's draft, transcript, shorter version published in The Listener, correspondence.

- C.35 Correspondence (only) <u>re</u> Hardy's 'Lunch-hour Dialogue' at St. Mary-le-Bow London, 29 September, and Advent Lectures on 'The Spiritual Development of Man' at Sion College London, 7 and 14 December 1970.
- C.36 'Does God make a difference?', talk on BBC Overseas Service November 1971. Hardy's manuscript draft, transcript.

Correspondence (only) <u>re</u> BBC TV 'Horizon' programme on religious experience 1972-73.

- C.37 'An experimental faith', draft for second of two short articles, published in <u>The Times</u> 18 August 1973. The first article (no draft survives) had appeared on 11 August.
- C.38 Sermon preached at Christ Church Cathedral Oxford 18 November 1973 and at Oundle School 8 May 1975. Manuscript notes, incomplete.
- C.39 'Evolution and the human spirit', lecture at Sussex University, 22 November 1973.
- C.40 The challenge of chance. Experiments and speculations, 1973

A collaborative publication on coincidence, telepathy and randomness, with R. Harvie and A. Koestler, published by Hutchinson and in USA by Random House, Inc.

Brief correspondence, reviews and replies to reviews.

- C.41 'Behaviour and evolution', the Boyle Lecture, Oxford, 1 February 1974. Manuscript draft.
- C.42 'Behaviour as a selective agent in evolution', contribution to new preface for J. Huxley's <u>Evolution</u> : the modern synthesis, 3rd edition 1975. Manuscript drafts and notes.
- C.43 Drafts for two chapters 'for the Farmington Trust Volume', entitled 'The world we live in', and 'Spiritual awareness in the experience of mankind', n.d., perhaps 1975.

The biology of God (Cape 1975)

- C.44 Notes, quotations etc. used for book. Draft for Chapter 9 'Dog and man : man and God' (an idea frequently used by Hardy in later writings and interviews).
- C.45 Hardy's list of presentation copies, correspondence from colleagues and readers.
- C.46 Reviews, a few with correspondence.

- C.47 'The universality of religious experience', address to World Congress of Faiths, 17 September 1977. Manuscript draft.
- C.48 BBC TV 'Everyman' programme 'It could happen to you', October 1979. Manuscript notes, brief correspondence.

The spiritual nature of man (Oxford 1979)

- C.49 Miscellaneous notes and drafts.
- C.50 Comments on draft by colleagues and editor; correspondence from readers.
- C.51 Correspondence <u>re</u> possible publication of book and other projected writings by Hardy, mainly with Cape but also with Gollancz. Hardy's letter of 1 December 1977 is of special interest in outlining his substantial writing programme including his autobiography (a duplicate is included for ease of reference at A.55).
- C.52 Correspondence with OUP 1978-83, contract, editing, publishing, publicity, paperback edition etc.

- C.53 Hardy's list of complimentary copies, correspondence with writers, journalists, editors etc. re publicity. Hardy was particularly desirous of ensuring a wide and sympathetic reception for the book which described the results of the work of the RERU and was also intended to assist its future via the royalty receipts (the BBC TV 'Everyman' programme (C.48) was also intended to foster interest). Hardy's letters to Arthur Koestler and Philip Toynbee set out at some length his views on science and religion.
- C.54 Reviews of Spiritual nature of man.
- C.55 'Science and spirituality', lecture given to Centre for Spiritual and Psychological Studies, in the Jerusalem Chamber Westminster Abbey 20 September 1980. Draft.
- C.56 'The church and science', Lenten lunch-time talk, St. Martin-inthe-Fields London, 1981. Draft.
- C.57 'Darwinian evolution need not be materialist', paper given at Higher Education Foundation Conference, Exeter, December 1981. Manuscript notes and draft.
- C.58 Correspondence (only) <u>re</u> possible BBC Radio 4 programme on coincidence 1982.

Border Television volume based on series of programmes on 'Revelations', for which Hardy wrote a Foreword. Correspondence 1984-85, draft of Hardy's contribution.

Darwin and the spirit of man (Collins 1984)

This was the last book which Hardy saw through the press, and the only one for which a complete draft survives.

C.59

Typescript and manuscript drafts and amended proofs.

- C.60 Correspondence with publishers, contract, readers' and editor's comments, revisions, publicity etc., 1981-84.
- C.61 Correspondence 1982-84 re biographical interview arranged as part of launch of book, published in The Standard 13 February 1984. Includes drafts of article and Hardy's emendations and comments.
- C.62 Correspondence with colleagues, replies to reviewers.
- C.63 Reviews of book, press-cuttings on Darwin and Darwinism.

- C.64 'Science and Religion', article written on request for <u>Le Figaro</u> Magazine, but apparently not published. October 1984.
- C.65 Miscellaneous invitations to attend or address meetings and conferences on religious topics.

RELIGIOUS EXPERIENCE RESEARCH UNIT (RERU) C.66–C.90

(from 1984: THE ALISTER HARDY RESEARCH CENTRE)

The material is presented as follows:

C.66-C.78 Organisation and research 1966-85.

A chronological sequence of correspondence, reports and papers relating to all aspects of RERU (establishment, administration, funding, relations with Manchester College, appointments, research programmes).

- C.79-C.86 Funding.
- C.87-C.90 Staff and appointments.

Organisation and research

- C.66 1966-68. Establishment of Unit, assignment of royalties from The divine flame, agreement with Manchester College, legal arrangements.
- C.67 1969. Launch of the Unit, circular letters and reports, correspondence.
- C.68 1970-75. Reports, correspondence, extracts from college committee minutes (compiled by Hardy). Includes speech by Hardy to celebrate 25th anniversary of founding of <u>Faith and Freedom</u> and its editor E.S. Price, 1972.
- C.69 1976-78. Meetings of RERU Research Council (1st Meeting July 1976), reports, correspondence, charitable status, college committees etc.

- C.70 1979. This was a difficult year for the RERU financially and also because of uncertainty about the programme of future research proposed by the Director, E.A. Robinson. In view of the weak financial situation, Hardy dissolved the Research Council after its meeting in April in order to relieve the Irustees of any responsibility, which he took upon himself for a limited period.
- C.71 Drafts for research projects put forward for RERU by E. A. Robinson, including 'Tradition and Experience' 1979, religious studies in education, and others, various dates 1979-81, some annotated unfavourably by Hardy, and discussed in the papers and correspondence.
- C.72 1980. Meetings of reconstituted Research Council, research proposals, separate charitable status etc.
- C.73 Correspondence August-December 1980 with Director and Council members on research proposals.
- C.74 1981-82. Papers and correspondence on future of RERU, relations with college, possible re-siting etc.
- C.75 1983. Council meetings, new trust deed, proposals for new Alister Hardy Research Centre and comments.
- C.76 Draft documents, proposals and appeal material for the Alister Hardy Research Centre, some annotated, discussed in committee meetings and correspondence and including final versions.
- C.77 1984. Meetings, reports on research project, correspondence, arrangements for Press Lunch for Alister Hardy Research Centre 9 October.
- C.78 1985. Meetings and correspondence January-June (Hardy attended the Council meeting on 7 May and died on 22 May).

Funding

An alphabetical sequence of correspondence and papers relating to individuals and charitable institutions including the Templeton Trust and Templeton Prize of £170,000 awarded to Hardy in 1985.

- C.79 The Dulverton Trust 1980, 1984.
- C.80 re Mrs. Ernest, a benefactor who left a bequest to RERU in 1969. Correspondence 1968-70, 1985 (with daughter).
- C.81 The Farmington Trust 1972, 1980-85.
- C.82 The Moorgate Trust Fund, founded by Sir John Ellerman (Hardy's earlier patron at Hull and Oxford) in 1970. Correspondence 1980-81 with Lady Ellerman and Trustee.
- C.83-C.85 The Templeton Foundation
- C.83 General correspondence with J.M. Templeton and others 1973-80, 1984.
- C.84 Award of Templeton Prize to Hardy in 1985. The award was announced to Hardy on 10 February (his birthday) and the public ceremony took place at Guildhall London on 14 May. On the previous day Hardy suffered a stroke and was unable to attend or to give his address, which was read for him. He died on 22 May.

Folder includes correspondence, arrangements and invitations for ceremony, copy of Hardy's speech and his manuscript commentary on the Lord's Prayer, brochure of ceremony.

- C.85 Letters of congratulation (not indexed).
- C.86 Miscellaneous financial statements and estimates for RERU 1971-82. Also included is a letter from Hardy June 1983 about his difficulties and successes in fund-raising.

Staff and collaborators

C.87 B-H, W.

- C.88 Hay, J.D.L. 1977-84.
- C.89 Knox, C. 1981, 1984.
- C.90 Robinson, E.A. 1969–70, 1975, 1979.

NCUACS 5/4/88	A.C. Hardy	66
CORRESPONDENCE	C.91-C.110	
C.91	Armstrong, H.J.B.	1979
C.92	Berry, R.J.	1979-81
C.93	Burt, C.	1965–68
	Correspondence on various theories and writi extensive comments by Burt on Hardy's draft Gi and copy of letter on <u>logos</u> by M. Laski (<u>Memoir</u> ,	fford lectures,
C.94	Cook, G. and Cook, V.	1975-84
C.95	Ernest, J.	1979, 1981, 1983
	Includes Hardy's draft for foreword for book mystic and healer Dorothy Kerin, by Ernest.	on life of the
C.96	Honia-Prager, D.	1979-85
	Dieuwke Honig-Prager was the widow of C.J. industrialist, whose writings she assembled. research studentship at RERU in his memory.	Honig, a Dutch
C.97	Hyde, L. 192	3, 1927, 1951-52
	Oxford contemporary of Hardy.	
C.98	Koestler, A.	1979-85
	Includes material <u>re</u> K.I.B. Foundation (Koestler Instone Bloomfield), memorial meeting for Art Koestler, Koestler Chair of Parapsychology.	
C.99	Micklem, N.	1969, 1976
C.95 C.96 C.97 C.98	extensive comments by Burt on Hardy's draft Gi and copy of letter on <u>logos</u> by M. Laski (<u>Memoir</u> , Cook, G. and Cook, V. Ernest, J. Includes Hardy's draft for foreword for book mystic and healer Dorothy Kerin, by Ernest. Honig-Prager, D. Dieuwke Honig-Prager was the widow of C.J. industrialist, whose writings she assembled. research studentship at RERU in his memory. Hyde, L. 192 Oxford contemporary of Hardy. Koestler, A. Includes material re K.I.B. Foundation (Koestler Instone Bloomfield), memorial meeting for Art Koestler, Koestler Chair of Parapsychology.	fford lectures p. 265). 1975-8 1979, 1981, 198 on life of th 1979-8 Honig, a Dutc She endowed 3, 1927, 1951-5 1979-8 , Brian Inglis hur and Cynthi

NCUACS 5/4/88	A.C. Hardy	67
C.100	Montgomery, H.	1982
	Scoresby, Coleridge and the unconscious.	
C.101	Oakeshott, W.	1964
	Manchester College and Oxford University.	
C.102	Popper, K.	1966-67, 1974-76
	Correspondence 1966-67 includes Hardy's comm Herbert Spencer lecture on evolution.	
C.103	Raven, C.E.	1962, 1975
	Letter 1962 is from Raven, on Teilhar Correspondence 1975 is <u>re</u> biography of Raven.	rd de Chardin.
C.104	Robertson, E.H.	1981-82
	Mainly on article written by Robertson on Ha 'God and the scientists', and includes draft and	rdy and RERU for d comments.
C.105	Russell, W.M.S.	1963-64, 1972
C.106	Simpson, H.	1983-84
C.107	Tickell, R.	1963-66, 1983
C.108	Weatherhead, L.D.	1952, 1966
C.109	Wilson, M.	1981
C.110	Miscellaneous shorter correspondence on rel experiences, publications etc., most with repli his views and plans. Not indexed.	igious matters, es from Hardy on

PRINTED MATERIAL C.111

C.lll Articles, letters to press etc. on religion by Hardy. RERU Reports. Press-cuttings on Hardy and religion, RERU, Templeton Prize etc. SECTION D

PATENTS, INVENTIONS, IDEAS

D.1-D.11

D.1-D.3 Historiograph 1919-45

This was a device 'for displaying, recording and teaching history or other subjects'. Hardy first patented it when he was at Oxford in 1919 but was unable to interest any commercial educational publisher. In 1937 and 1938 he revised and re-filed his patent and in 1940-41 pushed hard first to interest University College Hull, then to raise private finance. In a letter to H.G. Wells of 3 January 1941 included at D.3 he explains that his main purpose in launching the device was to further the scientific study of human ecology.

- D.1 1919-23. First patent, drawings, correspondence etc. for 'An improved system for recording and teaching history'.
- D.2 1937-38. Revised patent, drawings, under title 'Histograph'.
- D.3 1940-41, 1945. Correspondence, extracts from Hull Senate minutes on 'Historiograph'.

- D.4 'A floating university. An idea', 7 pp. manuscript draft, n.d. perhaps during Naples period c.1921.
- D.5 'The motor catering company', 1 p. outline for a type of 'Meals on Wheels' service aimed at an affluent public, n.d. early 1920s.
- D.6 Drawings of various devices for sea-bed harvesting by 'submarine tractor trawl' harrow and mopeds, n.d.
- D.7 Two patents filed 1937: patent and drawings for 'Microdrome' or 'Improvements in buildings for instruction or entertainment'; pp. 3 and 4 only of patent for a device for microscopic work.

- D.8 'The need for Noah's Arks', Hardy's suggestion for preserving aspects of civilisation after a nuclear war, published as article in <u>The Times</u> May 1960. Includes draft, correspondence from readers 1960 and later (to 1967), copy of abridged version used as examination paper 1960.
- D.9 Brief correspondence on new design for bicycle which Hardy had invented and was thinking of patenting, 1979.
- D.10 Melbourne Landmark Ideas Competition 1979. Includes Hardy's entry and drawings, official report on entries received. In his entry, Hardy referred to his earlier 'Noah's Ark' proposal (D.8) and hoped it might be incorporated in the eventual choice.
- D.11 'Designs for a "House of Prayer"', n.d.

See B.9, B.56 for other patents filed by Hardy.

SECTION E

OTHER INTERESTS

E.1-E.42

Introduction

E.1-E.11	Flight and Balloons
	With an introductory note

E.12-E.23 Northern Cyclist Battalion (NCB) With an introductory note

- E.24-E.27 Drawing and Painting With an introductory note
- E.28-E.34 Fiction and Poetry With an introductory note

E.35-E.42 Boxing With an introductory note

INTRODUCTION

The topics in this section represent active interests of Hardy which played a part in his scientific and spiritual formation rather than what would normally be termed 'outside interests'. It is clear from the outlines for his autobiography (A.55), which have been drawn upon for the introductory notes to each topic, that he intended them to feature in his own account of his life. They are presented in chronological order of the earliest surviving datable material.

FLIGHT AND BALLOONS E.1-E.11

Hardy's fascination with what he called 'airships and aeroplanes' dates from his preparatory schooldays in 1908. Chapters 5 and 13 of the draft autobiography (A.55) deal briefly with his first flight in 1914, won in a lottery, and later observation flying as part of his fishery work. There is also the account of a balloon flight from London to Oxford in 1924 which was published posthumously in 1986 as <u>Weekend with Willows</u>; here Hardy refers to his schoolboy enthusiasm and adds (p.15) 'I still have four large scrap albums of cuttings and photographs covering all the important flights of the years 1908-10'. These are preserved at E.1-E.4. Additional material of general historical interest can also be found at E.5, E.9.

E.1-E.4 Four large-format scrapbooks of photographs and press-cuttings.

E.l 'Airships and Flying-machines Vol.I', 'commenced 28.XII.08 completed 5.IX.09'.

E.2 'Airships and Flying-machines Vol.II', 'commenced 6.IX.09, completed 13.I.10'.

E.3 'Airships and Flying-machines Vol.III', 'commenced 14.I.10, completed 4.VIII.10'.

E.4 Untitled, similar material, mainly 1910-11. Includes photograph of the 'Willows airship' signed by E.T. Willows.

- E.5 Similar material, some contemporary with scrapbooks c.1909-11 but some later material, including Hardy's coronation balloon flight at Merton (see also F.45), Sadler commemorative flight (see also F.46), Lunardi bicentenary etc. Probably intended for incorporation in scrapbooks but not completed.
- E.6-E.8 Three early notebooks kept by Hardy at his preparatory school, Bramcote, Scarborough.

E.6 'Aeronautics', begun 21 June 1909.

E.7 'Aeronautics. Artificial and natural flight by means of flapping wings', 19 June 1910.

E.8 'Aeronautics. Artificial and natural flight by means of flapping wings', 2 August 1910.

- E.9 Album of photographs and press-cuttings of various aviation meetings 1908-14, at Harrogate, Doncaster, Bradford etc., some captioned by Hardy. Includes original material relating to Hardy's flight from Bradford to Leeds with Sydney Pickles in July 1914 (certificate, photographs, Hardy's sketch of the route, poster 'Harrogate man wins free flight' etc.).
- E.10 Hardy's copy of programme of 1909 Doncaster aviation meeting.
- E.ll Miscellaneous material relating to balloon flight from London with E.T. Willows in 1924, later published as Weekend with Willows. Plan of account, manuscript draft of first episodes, diary of events.

Hardy served with the NCB from January 1915 to October 1917, and was in command of C company from February 1917. The battalion was composed almost wholly of miners and pitmen from the Durham coalfield. Hardy's experience with the NCB was catalytic. Although he had already, during his first term at Oxford in 1914, made his secret vow to reconcile Darwinian evolutionary principles with his deep sense of the spiritual nature of man, it was his encounter and prolonged contact with these men of such differing origin and outlook from any previously imagined which crystallised Hardy's view of the unity of mankind and added a sense of social anger and a desire to break down artificial barriers of class and education. The impression made on him can be gauged by the title he gives Chapter 6 of his draft autobiography - 'Beloved Company' - though the surviving account as written up is little more than an outline of his career with NCB and the frequent promise of more to come. The various plans for the projected book show at least one and sometimes two further chapters allocated to his later contacts with his old comrades; there is also a heading for a chapter on 'The conquest of class' (A.55).

E.12-E.23

The manuscript and other material below, however, give ample indications of Hardy's devotion to the NCB and its men; he contributed drawings and cartoons to the magazine The Northern Mudguard (E.21, E.22, originals at E.24); he was in correspondence with some former company members from early 1918 and by autumn 1919 had started to write to and assemble records of as many as possible of the battalion; he published the results at his own expense as A Memoir in 1920 (E.23); and he maintained regular postal contact with a substantial number of old comrades and their families. As with his contacts with shipmates and laboratory staff documented in Section A, the NCB letters extend to children and grandchildren, may include photographs, drawings or similar mementoes, and regularly record visits by or to Hardy and Lady Hardy, advice on careers and welfare and quiet benefactions. Some of the exchanges are very brief, perhaps through an early death or (very rarely) lack of response, but the majority extend over long stretches of time and are broken only by death. They provide an interesting picture of social changes; they are preserved in alphabetical order at E.12-E.18.

The annual reunions, of which the first took place in 1919, were not in origin Hardy's idea, but their regular continuation owed almost everything to his determined enthusiasm. The chief local organiser was Bob Cowan, for many years secretary of the Ashington and Ellington Social Club where the reunions were often held, and there were various 'whippers-in' for other districts. Hardy made a point of attending and of looking up old friends and their families whenever possible and into advanced age. Another feature of the NCB connection was the Christmas card which he designed specially every year as long as he was able to do so and which was much looked forward to and cherished by the recipients (E.26).

Almost all the letters are incoming, and bear a tick or symbol (@) indicating that Hardy had answered them; only a few of his draft replies remain, usually with material of some personal or biographical interest. Examples of these may be found in correspondence with D.D. Anderson 9 November 1927, P.M. Black 5 January 1932, J. Irwin 20 February 1949, B. Patterson 4 October 1951, J.A. Scott 1920.

E.12-E.18 Letters from old NCB comrades.

F.12 Hardy's lists of correspondents (D-W only) are also Α. included here. E.13 Β. E.16 H-L E.14 E.17 M-P с. E.15 E.18 R-W D-G

- E.19 Miscellaneous material re NCB and reunions 1925-75. Includes Hardy's circular letters, address lists, lists of those attending reunions etc.
- E.20 Press-cuttings of reunions 1919, 1920, 1961-69.
- E.21, E.22 The Northern Mudguard (NCB magazine)

E.21	Vol.	Ι,	nos.	1-24	September	1915 -	September	1916.
E.22			nos. no.	1-12 1	October January		December	1916,

E.23 <u>A Memoir of C Company</u>, with preface by Hardy explaining genesis of the work and his part in it. n.d. [1920]

Also included here is Programme of Military and Athletic Sports meeting 1916.

Photographs of NCB members, on wartime service and in later years, and of reunions are at F.37-F.43. A film of an NCB reunion is at F.56.

DRAWING AND PAINTING E.24-E.27

Hardy was a skilful amateur artist. He provided his own sketches, diagrams and water-colour illustrations to all his major scientific works. The original drawings for <u>The open sea</u> and <u>Great waters</u> are in the Zoology Department Oxford; drawings of temples are at the Alister Hardy Research Centre. See B.31, B.72, F.50 for other water-colour sketches by Hardy, and B.91, C.24, Section D passim for drawings and diagrams.

- E.24 Sketches and cartoons 1915-18, some of plans for coastal defence by NCB but mainly caricatures and humorous drawings of individuals or incidents. Many appeared in <u>The Northern</u> <u>Mudguard</u>.
- E.25 Miscellaneous drawings and sketches, including mining scenes (c.1925), aeroplanes, bird flight, woad industry etc.
- E.26 Album of NCB Christmas cards designed and sent by Hardy, 1915, 1937-78.
- E.27 Album of Christmas cards designed and sent by Hardy to others 1938-84.

FICTION AND POETRY E.28-E.34

A chapter heading for the draft autobiography (A.55) is 'The fun of writing stories'. It remains tantalizingly unwritten, but its place between 'Lowestoft' and 'Out with the herring fleet' suggests a period in the early 1920s for many of Hardy's literary efforts. This would be broadly correct, but much of his writing was of a semi-abstract nature on his familiar humanitarian anti-materialist themes which may be of a slightly earlier date. The reflections on Newcastle and the verses on Durham cathedral for example (E.28) date from 1917 according to Hardy's letter of 30 October 1979 to Philip Toynbee (see C.53), and the drafts and plans for his book on 'A layman's search for God' (E.29) may belong to his time at Naples.

- E.28 Speculations, reflections, poems, plans for books or writings on evolution, natural theology, social justice etc. Include reflections on Newcastle, a 'rough rhyme' on 'Impressions of a visit to Durham' (both 1917), 'The Boiling Point' (perhaps during wartime), 'At the top of the ladder - what?' (outline for seventeen chapters of book on 'a theory of scientific theology', 'The guiding force of future evolution' (outline for seven chapters of book), speech attacking established Church (post war), miscellaneous verses, outline for book on 'The Weaving : a natural history of life as a whole' (1925).
- E.29 'A layman's search for God'. Plans and drafts for book so titled. n.d. but kept with draft of letter to A. Denis on subject, and travel notes of journeys in Italy 1921.
- E.30 'Osmic Jones. Being a popular account of the extraordinary adventures of Professor Oswald Jones FRS in the microscopic world and the events leading to the foundation of the Tanklin Society'.

This was Hardy's most ambitious venture, a science fiction fantasy using his ideas on evolution and other autobiographical elements. It is often referred to in the early correspondence with Denis (B.116). The 'title page' is given a notional publication date 'London 1923' but Hardy does not seem to have submitted it to a publisher. The material consists of a title page, introduction and variously paginated drafts.

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- E.31 Short stories, written at Lowestoft, submitted to literary agent and returned to Hardy at Dartmouth 1925 immediately before sailing of Discovery. Includes reader's report on five stories: 'The alchemist', 'Scrooby's hole', 'George and the dragon', 'The little silver flute', 'Bath salts'. A sixth story 'The Whincroft mystery' is also included. All the stories are signed 'Mac Alister' (Hardy's wartime nickname).
- E.32 'Out with the herring fleet'. Manuscript draft for the first of a series of narratives planned under the title 'Little Adventures' (list enclosed) which would also have included 'Down the mine', 'Into the microscopic world', 'Weekend ballooning', 'Flying for fish' and accounts of travels in Italy and Iceland. n.d. [1924-25].
- E.33 Plans and drafts for stories similar to those at E.31 but also including 'The Expedition' perhaps written during or after Discovery expedition.
- E.34 Plans and drafts for later writings. Includes some humorous anecdotes, various dates; 'Developing ideas. Essays towards new ways of thinking about science, psi and religion' (anthology of Hardy's addresses 1942-60), 'Ideas and Speculations' n.d. 1960s, 'The conquest of class' n.d. (also proposed as a chapter title in draft autobiography).

BOXING E.35-E.42

Once more the title of an unwritten chapter in the draft autobiography (A.55) provides a partial clue to this interest of Hardy. It reads 'What is it about boxing?' and is immediately followed by 'Appointed to the <u>Discovery</u>', again suggesting that his involvement with the sport was developed during his years at Lowestoft. The correspondence with the Dann brothers (E.40) supports this by their recollections of sparring sessions in various Lowestoft public-houses where they were landlords, though no date is given. Hardy's preparation for the <u>Discovery</u> voyage seems to have included physical training, which brought him into contact with H.W. Birmingham and H. Young, both army boxers (E.39, E.42).

On his move to Hull, Hardy wished to continue boxing. He advertised in the Hull newspaper and received a reply from C.J. Buck, an amateur boxer then serving in the army. This began a long involvement with the Buck family through many vicissitudes, Hardy greatly valuing the contact with a (then very humble) Hull family who welcomed him into their home, and keeping in touch with successive generations by post and by visits right to the last. Several of his later letters to the younger members necessarily contain explanations of his arrival among them as 'Uncle Mac' and are of interest in that respect.

It is less clear how Hardy became involved with A. Newton, a blind boxer who ran training establishments for several years in London. The earliest letter is dated 1952 but suggests some previous acquaintance. Hardy kept up contact with the family for many years (E.41).

Because of its extent, the material relating to C.J. Buck and family is placed first (E.35-E.38), the other boxing correspondence following in alphabetical order.

- E.35 Correspondence with C.J. Buck and family 1932-50, kept in Hardy's bundles, some with notes by him.
- E.36 1951-71 (year of C.J. Buck's death).
- E.37 Miscellaneous correspondence with members of the Buck family 1954-69.

Later correspondence with members of the Buck family after the death of C.J. Buck 1972-82. Hardy wrote a circular letter at
Christmas and sometimes in between, and continued to offer
friendship, help and annual visits (the last apparently in
1979). Several of his letters contain personal and biographical
reminiscences.

- E.39 Letters from H.W. Birmingham and family 1925-63.
- E.40 Letters from Arthur, George and Ernest Dann and families 1939-61.
- E.41 Letters from and material relating to the blind boxer A. Newton, and family 1952-80.
- E.42 Letters from H. Young 1926-31.

NON-PRINT MATERIAL

F.1-F.56

F.1-F.48 Photographs

Personal and family F.1-F.3 Colleagues F.4 Research projects F.5-F.10 <u>Discovery</u> F.11-F.20 Other expeditions F.21-F.29 Hull F.30-F.33 Oxford F.34, F.35 British Association F.36 Northern Cyclist Battalion F.37-F.43 Miscellaneous F.44-F.48

F.49, F.50 Drawings

F.51-F.54 Tape Recordings

F.55, F.56 Films

PHOTOGRAPHS F.1-F.48

Personal and family

F.1 Portrait studies of Hardy ?1915, in uniform 1917. Hardy's mother. Hardy and Sidney Pickles in aircraft 1914.

F.2 Hardy and his children (snapshots) 1930s. Hardy and Sylvia, Faroe Islands 1949. Hardy 1949, 1979, n.d.

F.3 Honorary degrees Southampton 1962, Hull 1963.

Ornithological Congress 1966 (2 with Ernst Mayr, 1 with V. Wynne-Edwards).

In Australia (2) 1961.

At Alister Hardy Research Centre ?October 1984.

Colleagues

F.4 Hardy with C.P. Blacker, J.R. Baker and T.T. Barnard, Plymouth 1920.
F.S. Russell.
Monica Taylor (Sister Monica).
W.N. Paton c.1942.
A.E. Morgan.
Mrs Ernest (benefactor of RERU).
Armand Denis, all periods.

Research projects

F.5	Aerial insect drift. Tow-net experiments from ships and with kites and balloons 1930s.
F.6	Aerial insect drift. Tow-nets from helicopters 1947.
F.7	Vertical migration. Work with W.N. Paton c.1942, some used for paper 1947.
F.8	Vertical migration. Work with R. Bainbridge and others on 'Plankton Wheel'. Early 1950s.
F.9	At Millport. Hardy in frogman suit. Late 1940s.
F.10	At sea off Scotland. Bioluminescence and vertical migration ?1950s.

Discovery

Some, but not all, of these photographs were later used in <u>Great</u> waters. See also B.49.

- F.ll Crew and colleagues.
- F.12 Ships: William Scoresby (2)

St. George, Dartmouth 1925

Launch of first Discovery, Dundee 1901 (3).

F.13 Discovery (sometimes with other ships).

- F.14 Photographs (small format) identified by Hardy on verso, landfall in Canaries etc.
- F.15 Landfall in South Africa.
- F.16 Voyage, equipment, crossing the line, plankton recorder etc.
- F.17 Iristan da Cunha.
- F.18 Birds, penguins, seals, dolphin.
- F.19 Whales.
- F.20 Icebergs and floes, Antarctic scenery.

Other expeditions

F.26

Not used.

F.21 Visit to Hong Kong 1953 (see B.96-B.98). Construction, launching ceremony and banquet, sea trials of research vessel Alister Hardy. Includes negative of photograph of Hardy framed by vessel's lifebelt, of which he was very fond.
F.22 Two enlarged photographs of Alister Hardy.
F.23 Hardy and colleagues during Hong Kong visit.
F.24 Photographs of Alister Hardy, crew, equipment etc. at work, May 1954.
F.25 On research vessel Explorer 1957.

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F.27	At Angkor Wat, 1957 (see B.100)	
F.28	Te Vega expedition 1965 (see B.104).	Album.
F.29	Photographs of <u>Te Vega</u> expedition.	
Hull		
F.30	Department and laboratory.	
F.31	Hardy and members of department.	
F.32	Specimens and exhibits, mainly the referred to in W. Garstang's verses of	
F.33	Hull University College Group photogra	ph May 1931.
Oxford		
F.34	Zoology Department Group photographs.	
	1948 (with key)	1957 (with key)
	1949 (with key)	1958 (with key)
	1951 (with key)	1959 (with key)
	1954 (with key)	1960 (with key)
	1955 (with key)	n.d.
	1956 (with key)	

F.35 Photograph of E.B. Ford, Hardy and J.R. Baker posed in front of their triple portrait by H. Schwarz unveiled in Zoology Department by J.S. Huxley 1972.

Photographs of Hardy, J.W.S. Pringle and T.R.E. Southwood (successive Linacre Professors) at party in Department.

Photograph of Department at coffee break 1958.

British Association

F.36 Group photographs of Section D (zoology) at annual meetings 1948 Brighton, 1949 Newcastle, 1958 Glasgow (with key).

Northern Cyclist Battalion

F.37	Album of individual and group photographs compiled by Hardy.
F.38	Portrait photographs or snaps of NCB comrades during active service, most identified and dated.
F.39	Group photographs during active service.
F.40	NCB with cycles during active service.
F.41	Photographs or cards of sites of NCB service on East coast.
F.42	Later photographs of NCB comrades, families.
F.43	NCB reunions, some dated. Most at Ashington, some London.

Miscellaneous

F.44	Crew of George Bligh.		
	Photographs at Ashington.		
F.45	Attempts to send up balloon from Merton quadrangle to celebrate Coronation 1953.		
F.46	Sadler Commemoration balloon ascent from Merton playing field 1970.		
F.47	C.J. Buck and family, all periods (album).		
F.48	Glossy photographs documenting all periods of Hardy's career, taken or enlarged by N. Richards c.1984 as part of Hardy's preparations for his autobiography, from existing photographs or memorabilia.		

DRAWINGS F.49, F.50

F.49 Continuous Plankton Recorder drawings. In roll.

F.50 Certificate for 'Crossing the Line' Ceremony on <u>Discovery</u> 1925 (drawn by Hardy). Also later certificate for crossing by plane 1963. Kept together.

TAPE RECORDINGS F.51-F.54

- F.51 'A scientific approach to religion' Seminar Cassettes Ltd. 1973.
- F.52 'Desert Island Discs' BBC cassette c.1974.
- F.53 Discussion with D. Morris 8 June 1983.
- F.54 Interview with D. Freeman, Radio Oxford 2 August 1984.

FILMS F.55, F.56

F.55 Launch of Alister Hardy, Hong Kong 1953, 16 mm. silent.

F.56 NCB reunion, 9.5 mm.

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WHYTE, Lancelot L.	C.21
WIGHTMAN, W.P.D.	C.20
WILLIAMS, Carrington Bonsor	B.52, C.8
WILSON, Allan C.	C.62
WILSON, Monica	C.109
WOODS, Robert Wilmer	C.83
WORTHINGTON, Herbert	A.37
WRIGHT, Sir Norman (Charles)	B.19
WYNNE-EDWARDS, Vero Copner	B.85, B.87

 YONGE, Sir (Charles) Maurice
 B.12, B.13, B.20, B.154

 YOUNG, John Zachary
 A.43, B.137

 YOUNT, James L.
 B.85