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OUR STORY FROM 1962 and ONWARDS

A Memoire of My Academic Curriculum Vitae
The Tale of Me and My Family
and
Reflections on My Philosophy
with
Picture Stories

All Photographs in this Book as well as many more are Digitised in my Computer Picture Files
DVD/Videos are Boxed and Contents are Listed in Picture File XXI: 7.2.1(Spring File)

To Mum and Dad

For Christine and Katie, Max and Kirsty

and

Kiwi

Thanks for Having Me



1976 8th September Our Wedding Kyuna Nairobi



1976 8th September Our Wedding Kyuna Nairobi



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***All in Labelled Plastic Storage Boxes**

XXII. ACKNOWLEDGEMENTS

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THE FOUNDERS OF OUR FAMILY

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ABBREVIATIONS

AAVP: American Association of Veterinary Parasitology

ADB: African Development Bank

ARC: Agricultural Research Council

AFRC: Agricultural and Food Research Council

AHT: Animal Health Trust

AVMA: American Veterinary Medical Association

AVTRW: Association of Veterinary Teachers and Research Workers

BSI: British Society for Immunology

BSP: British Society for Parasitology

CGIAR: Consultative Group for International Agricultural Research

DFID: Department for International Development

DDA: Dunbartonshire Development Agency

DTI: Department of Trade and Industry

EATRO: East African Trypanosomiasis Research Organization

EEC: European Economic Community

EAVRO: East African Veterinary Research Organization

ERDF: European Regional Development Fund

FAO: Food and Agriculture Organization of The United Nations

GDA: Glasgow Development Agency

GTZ: German Agency for Technical Cooperation

HRBLB: Horserace Betting Levy Board

ILCA: International Livestock Centre for Africa

ILRAD: International Laboratory for Research on Animal Diseases

ITC: International Trypanotolerance Centre

KETRI: Kenya Trypanosomiasis Research Institute

OAU/IBAR: Organization of African Unity/Interafrican Bureau for Animal Research

ODA: Overseas Development Agency

UNDP: United Nations Development Programme

USAID: United States Agency for International Development

WAAVP: World Association for the Advancement of Veterinary Parasitology

I. EXECUTIVE SUMMARY

This is the Story of my Career, my Marriage to Christine, and the Diaspora of our Family.

I graduated Bachelor of Veterinary Medicine and Surgery at Glasgow University Veterinary School, receiving the McCall Award: “The Most Distinguished Graduate of 1962”

Professor and Head of Department of Veterinary Medicine at University of Glasgow Veterinary School (appointed 1985), and from 1995 to 2003 Professor and Head of Department of Veterinary Clinical Studies, a Department of some 170 people with an annual turnover of £6 million in 2002; Animal Health Trust Scholarship 1962-63; Lecturer in Veterinary Pathology at the Faculty of Veterinary Science, University College of Nairobi (1963-65); Lecturer in Experimental Veterinary Medicine (1965–68), then in Veterinary Pathology (1969-73) and, subsequently, Senior Lecturer at the University of Glasgow Veterinary School (1973-75); Visiting Professor in World Health Organisation (WHO) Immunology Laboratory in Hôpital Cantonal, University of Geneva (1975); and Senior Core Scientist at the International Laboratory for Research on Animal Diseases (ILRAD), Nairobi (1975-85). Retired in 2003 as Emeritus Professor of Veterinary Medicine and Honorary Senior Research Fellow, University of Glasgow.

Over 50 years research, teaching and development experience in Higher Education Institutes and International Research Organisations in Britain, Europe and Africa, including, Universities of Glasgow, Nairobi and Geneva, The International Laboratory for Research on Animal Diseases (ILRAD), Nairobi, Kenya, and the International Trypanotolerance Centre (ITC), The Gambia. Consulted for National and International Agencies in Britain, Europe, USA and Africa, including, Rockefeller Foundation, Commission of European Communities, the US Agency for International Development (USAID), the Food and Agriculture Organization of the United Nations (FAO), The World Health Organization (WHO), Organization of African Unity/ Inter African Bureau of Animal Resources (OAU / IBAR), and the UK Department for International Development (DIFD formerly ODA).

Main research has been on parasitic diseases of animals and man (including tropical infections, mainly African trypanosomiasis) with particular reference to diagnosis, pathogenesis, immunology, genetic resistance, informatics and epidemiology, work that made internationally recognised advances to improve diagnosis and treatment of disease, and consequent implementation of effective sustained approaches for control and prevention.

Collaborated with industry in the successful technology transfer of research to the market place, including, development of parasitological diagnostic tests with Leitz, Germany, 1975; composite Animal Health Packages for Developing Countries with May and Baker Pharmaceuticals (received Department of Trade and Industry Technology Transfer Industry Year Award 1986). On my return to Glasgow, I became involved in development of Point-of Care Diagnostic Instruments for both user-friendly ‘in house’ delivery of results, and decision support statistical interpretation-The Biochemical Thermometer e.g., the VetTest 8008 for Blood Chemistry (1989) which became the number one instrument in the world, and is to this day; the HaemaTek 2001, a new concept in Haematology Analysis, launched in 1999.

Published over 400 papers and presented over 300 major papers.

Initiation of undergraduate as well as postgraduate structured training in Research, and formalised postgraduate Clinical Training and Specialisation at University Glasgow Veterinary from 1985.

Raised Funding of over £75million: Promotion of basic, strategic, and adaptive research and technology transfer (£19.5million): Major new building initiatives: in Africa, including, Nairobi Veterinary School, ILRAD (Kenya) and ITC (The Gambia) and more recently in Glasgow Veterinary School, the Weipers Centre for Equine Welfare, the Institute of Comparative Medicine, and the Small Animal Hospital, totalling £53.7 million; and nearly £2 million in Commerce.

Awarded Nairobi City Fellowship in 1964. In 1997, received the WAAVP/Pfizer International Prize for outstanding contributions to veterinary parasitology research; in 1999, the Bledisloe Veterinary Award from the Royal Agricultural Society for England for research which has provided “real benefits to farmers across the world”; also in 1999, Silver Medal and ‘Certificate of Appreciation’ awarded by OAU / IBAR for ‘contribution to the successful conduct of research, control and eradication of Tsetse Flies and Trypanosomiasis from Africa’.

Following retiral in 2003, continued funded research on pathogenesis and treatment of human African Trypanosomiasis. Trustee of The Gambia Horse and Donkey Trust (GHDT), employing Animal Power to sustain and increase family income in rural Sub-Saharan Africa, with special interest in the role of the Internet in schools. Marketing and Fund Raising for the University of Glasgow until 2012. Co-Editor of “Glasgow Veterinary School 1862-2012” 150th Anniversary. A Director of Natural Veterinary Nutrition Ltd (NVN), a company developing nutraceuticals for the wellbeing of animals and man with market launch in 2014 of FWGE (fermented wheat germ extract), with a 100% efficacy for treatment of bad behaviour etc., in horses (eCalm), dogs and cats (RxVitalise), and probably humans.

In My Memoires, I have complemented my Academic Career with My Social Story: from Glasgow 1962, Kenya 1963-65, 1975-85, Glasgow 1965-74, Geneva 1975 and Glasgow 1985 and onwards: My marriage to Christine in Nairobi on the 8th September 1976, then the arrival in Nairobi of Katie in 1978, Max in 1979 and Kirsty in 1983; the marriages of Katie and Peter Martin at Skeabost, Isle of Skye 2009, Max and Bec at the Brig O' Doon, Alloway 2010, and Kirsty and Tom McGinley at the Tithe Barn in Hampshire 2012, followed by our Grandchildren from 2010 Peter, Max, George, Molly, Martha, Michael, Elsa and, in 2016, Edward. I have also included some Philosophy-The Magic Essence, the VetTest 8008-I nearly became a Millionaire, My Africa, A Poem, My Speeches at Katie's Wedding, and Kirsty's Wedding and 21st Birthday, complemented by movies and pictures, and my Reflections etc.

Obstetrics, Second Class Certificates in Botany, Physiology, and Parasitology, Medicine. Distinctions for Chemistry, Histology and Embryology, Animal Husbandry, Preventive Medicine and Food Hygiene, and Surgery, and was awarded The Royal Highland and Agricultural Society of Scotland Medals for Veterinary Histology and Embryology, Animal Husbandry, Preventive Veterinary Medicine and Food Hygiene, Veterinary Clinical Surgery and for Veterinary Surgery (**ARCHIVES XXI:1**). Received the Animal Health Trust Evans Medical Veterinary Studentship Award as the top veterinary student of 1961, and the Finlay Kerr Award in 1962 as the best Final Year Student (highest total marks in the Final Professional Examination). Became a member of the Royal College of Veterinary Surgeons (MRCVS) in 1962 and a Fellow of the Royal College of Veterinary Surgeons (FRCVS) in 2014.

IV. POST-GRADUATE DEGREES and FELLOWSHIPS

Doctor of Philosophy (PhD). "Pathogenesis of Bovine Ostertagiasis". University of Glasgow. July, 1968.

Doctor of Veterinary Medicine (DVM) with Commendation. "Animal Diseases of East Africa. A Study of their Incidence and Pathology." University of Glasgow. July, 1970.

Member of the Royal College of Pathologists (MRC Path), 1972.

Fellow of the Royal College of Pathologists (FRC Path), 1984.

Fellow of the Royal Society of Edinburgh (FRSE), 1984.

V. AWARDS MEDALS (Archives XXI.1)

- The Royal Highland and Agricultural Society of Scotland Medals, 1958, 1961, 1962.
- Nairobi City Fellowship 1964-65.
- The Royal Microscopical Society Prize: Micro 70 Exhibition 1970. Electron Microscopy: use of Horseradish Peroxidase.

- Technology Transfer Industry Year Award (Department of Trade and Industry) 1986 with May & Baker Pharmaceuticals Ltd for the successful implementation in Developing Countries of Animal Health Packages for Parasitological Diseases.
- The Ciba Prize for Research in Animal Health: Short Listed: Medal Awarded 1993.
- SMART AWARD 1995: Development of Point-of-Care Diagnostic Analysers. 1993-94.
- The WAAVP/Pfizer Award for outstanding contributions to veterinary parasitology research (\$7500). 1997. Award Lecture “Parasites, Predators, Places and People I have known - a Great Adventure” **(XIII:1.180)**.
- Bledisloe Veterinary Award for 1999 presented by Prince Andrew, The Duke of York on behalf of the Royal Agricultural Society of England for “Contributions to knowledge in the field of livestock parasites and the immunological mechanisms important in parasite control which has provided real benefits to farmers across the world”.
- Silver Medal and ‘Certificate of Appreciation’ awarded by InterAfrican Bureau of Animal Resources, Organization of African Unity (OAU/IBAR) for “contribution to the successful conduct of research, control and eradication of Tsetse Flies and Trypanosomiasis from Africa”. 1999.
- Honorary Life Membership for outstanding contributions to the Association of Veterinary Teachers and Research Workers, Scarborough, 2002.
- Honorary Fellowship of The Royal College of Veterinary Surgeons (FRCVS), 2014 **(XXI:4.16)**



2007 WAAVP/Pfizer Award Sun City South Africa





1999 Bledisloe Veterinary Award: Prince Andrew The Duke of York



**TIMELESS: NO SURRENDER WE ARRA PEOPLE
MY GREATEST AWARD**

VI. LEARNED SOCIETIES

World Association for the Advancement of Veterinary Parasitology
British Society for Parasitology
British Veterinary Association
Association of Veterinary Teachers and Research Workers
Society for Companion Animals
British Association of Veterinary Parasitology
British Society of Immunology

VII. EDITORIAL BOARDS

Acta Tropica	1985 - 2006
Veterinary Parasitology	1986 - 2003
International Journal of Parasitology	1987 - 2005

VIII. FULL-TIME APPOINTMENTS

1962 Animal Health Trust Scholarship (one of two awarded annually) to study under Professor W.F.H. Jarrett in the Department of Hospital Pathology at the Veterinary Hospital of Glasgow University. (Agriculture Research Council (ARC) and Horserace Betting Levy Board Scholarships awarded but not taken up).

1963-65 Lecturer in the Department of Veterinary Pathology in the Faculty of Veterinary Science, University College of Nairobi, Kenya (funded by The Rockefeller Foundation through Glasgow University).

1965-68 Lecturer in the Department of Experimental Veterinary Medicine, University of Glasgow.

1969-73 Lecturer in the Department of Veterinary Pathology, University of Glasgow.

1973-75 Senior Lecturer in the Department of Veterinary Pathology, University of Glasgow.

1975-85 Senior Scientist and Head of Laboratory of Experimental Pathology and Immunology at the International Laboratory for Research on Animal Diseases (ILRAD), Nairobi, Kenya.

- 1985-95 Professor and Head of Department of Veterinary Medicine, University of Glasgow.
- 1995-03 Professor and Head of Department of Veterinary Clinical Studies, University of Glasgow.
- 2003 Emeritus Professor of Veterinary Medicine and Honorary Senior Research Fellow, University of Glasgow

IX. OTHER APPOINTMENTS

- 1963-65 Nairobi City Fellow: Consultant Pathologist to Kenya Wild Life Department and Nairobi Public Health Office.
- 1975 Visiting Professor to the University of Geneva, Division D'Haematologie et Centre de Transfusion Sanguine, Hopital Cantonal in the World Health Organization Immunology Laboratory of Professor P.A. Meischer and Professor P.H. Lambert (funded by The Wellcome Trust, The Universities of Geneva and Glasgow University and ILRAD).
- 1976-78 Seconded to The Gambia, West Africa, on a part-time basis. Project Leader, Trypanotolerance Programme involving the University of Glasgow, The Government of The Gambia, The Rockefeller Foundation and ILRAD.
- 1978 Acting Director General of ILRAD.
- 1978-85 ILRAD Project Leader co-ordinating with Dr. J.C.M. Trail of the International Livestock Centre for Africa (ILCA) The African Trypanotolerance Network in 13 Countries in Africa, a production and epidemiology programme on African Animal Trypanosomiasis.
- 1977-86 Member 1977 onwards and from 1982 to 1986 Chairman of Immunology and Pathology of African Trypanosomiasis Committee for UNDP/World Bank/WHO Special Programmes for Research and Training on Tropical Diseases.
- 1988-96 Member of Council and Executive Committee, and Chairman of Research Programme of the International Trypanotolerance Centre (ITC), The Gambia, West Africa.
- 1988-2003 Glasgow Veterinary School: Chairman of A1 Development Committee: mandate to implement Building, Technology Transfer and Commercialisation, and from 2000 Director of External Affairs with same remit.

Head-hunted: 1971 Associate Professor in Pathology by Lawson Soulsby Philadelphia Veterinary School, University of Pennsylvania and then in 1975 for the the Chair of Large Animal Pathology: 1975, Chair of Veterinary Anatomy, Glasgow University: 1976, Chair of Veterinary Pathology, University of Cambridge: 1978, Professor of Veterinary Parasitology, University of Brisbane: 1979, Dean of Davis Veterinary School, California: 1983, Chair of Veterinary Pathology, Royal Veterinary College, London: 1990, Winrock International, Director for Animal Agriculture for Africa, based in Washington DC, USA.

X. CONSULTANCIES/MAJOR COMMITTEES

X.1. Research, Academia and Development

Acted as consultant and on committees of National and International Agencies/Institutions.

1. The Rockefeller Foundation

- 1972 African Trypanosomiasis. International Think Tank. Rockefeller Foundation, Villa Serbelloni, Bellagio, Italy.
- 1975 Rockefeller Foundation International Research Programme, New York.
- 1975 Immunoprophylaxis against Haemoparasites. International Think Tank. Rockefeller Foundation, Villa Serbelloni, Bellagio, Italy.
- 1978 Task Force which prepared for the United States Government a strategy document "Tsetse and Trypanosomiasis Control: A Strategy for the Future of Africa". Rockefeller Foundation, Villa Serbelloni, Bellagio, Italy, Nairobi (OAU/IBAR, 1978), Nairobi (ILRAD, 1978).
- 1981 Establishment of The International Trypanotolerance Centre (ITC) in The Gambia, Villa Serbelloni, Bellagio, Italy.
- 1982 The Major Hemotropic Diseases of Food-Producing Animals. *Ad Hoc* Task Force sponsored by United States Agency for International Development (USAID) and the Rockefeller Foundation for the Joint Research Committee of the Board of International Food and Agricultural Development. Chairman, J.J. McKelvey, Jr., Rockefeller Foundation.

2. German Agency for Technical Co-operation (GTZ)

1979 Trypanocidal drugs, Trypanotolerance, Frankfurt, West Germany.

3. United States Agency for International Development (USAID)

1978-80 Steering Committee member of Task Force which prepared for the United States Government a strategy document "Tsetse and Trypanosomiasis Control: A Strategy for the Future of Africa".
Meetings: Nairobi (OAU/IBAR, 1978), Bellagio (1978), Nairobi (ILRAD, 1978).

4. African Development Bank (ADB)

1981-82 Member of Mission to establish a N'Dama Productivity and Research Centre in The Gambia, West Africa. The mission was successful, a \$15 million project financed by African Development Bank, European Community (EC), Rockefeller Foundation etc., officially opened as the International Trypanotolerance Centre (ITC) in 1987.

5. International Atomic Energy Agency (IAEA)

1979 Training Course Director, Nairobi, Kenya.

1979 Steering Committee on Tick-Borne Diseases, Nairobi, Kenya.

1979 Steering Committee on Genetic and Nutritional Influences on Immunology and Pathogenesis of Parasitic Infections in Ruminants, University of Cambridge.

1980 Training Manual on Nuclear Techniques.

1984-86 Steering Committee on Trypanocidal Drugs at Kenya Trypanosomiasis Research Institute (KETRI), Muguga, Kenya.

6. Food and Agriculture Organization of the United Nations (FAO)

1976 Trypanotolerance, Rome

1976 The African Trypanosomiases, Rome.

1978 Control of Trypanosomiases, Lusaka, Zambia.

- 1978 Training Manual on Control of African Trypanosomiases, Rome.
- 1979 Research on Trypanosomiasis, Rome.
- 1981-84 Rome, Addis Ababa, Nairobi. Member of FAO panel of Experts on the Ecological and Technical Aspects of the Programme for the control of Animal African Trypanosomiasis and Related Development.
- 1991 Activities and Funding Requirements of International Trypanotolerance Centre (ITC), The Gambia, West Africa.
- 1991 Expert Consultation on the Genetic Aspects of Trypanotolerance, Rome.

7. World Health Organization (WHO)

- 1973 Chagas Disease, Mexico City.
- 1974 Immune Complex Disease, Geneva.
- 1975 Vaccination against Parasitic Diseases, Geneva.
- 1979 Represented WHO at Chaga Centenary, Rio de Janeiro, Brazil: Presented Paper "African Sleeping Sickness".
- 1980 Application of Modern Technology of Biochemistry and Molecular Biology to problems of Human Trypanosomiasis, Nairobi.
- 1981 Application of Modern Technology in the Development of Serodiagnostic Reagents and Studies on Antigenic Variation in African Trypanosomiasis, Antwerp.
- 1988 Modelling Sleeping Sickness Epidemiology and Control, Antwerp.

8. World Health Organization: UNDP/World Bank/WHO Special Programme for Research and Training in Tropical Diseases (TDR).

- 1976-78 Geneva, Tanzania, Kenya: Member of Scientific Working Groups held by the Special Programme to formulate WHO Research Strategy on African Trypanosomiasis.
- 1977-82 Member of Steering Committee on Immunology and Pathology of African Trypanosomiasis, Geneva (Annual Meeting in Geneva).
- 1982-86 Chairman of Steering Committee on Immunology and Pathology of African Trypanosomiasis, Geneva (Annual Meeting in Geneva).

1986 Chairman of Scientific and Review Committee (STRC) of African Trypanosomiasis at Eighth Meeting of the Scientific and Technical Advisory Committee (STAC), Geneva.

9. Organisation of African Unity/Inter African Bureau for Animal Resources (OAU/IBAR)

1977 Nairobi: Course Co-ordinator with Christine Murray (wife) for OAU/IBAR. Leadership Training Seminar on Tsetse-borne Trypanosomiasis organised for the FAO/OAU/WHO by Professor Ian McIntyre with support of Mrs. Danae Wilkins in collaboration with ILRAD.

1976-81 Technical and editorial advisor of subsequent publications for the International Scientific Council for Trypanosomiasis Research Control (ISCTRC) biannual meetings in The Gambia (1977), Yaounde, Cameroon (1979), and Arusha, Tanzania (1981).

10. International Livestock Centre for Africa (ILCA, Nairobi and Addis Ababa)

1987 Consultant to ILCA Trypanotolerance Network Programme.

1991-94 Consultant Animal Health Adviser.

11. International Laboratory for Research on Animal Diseases (ILRAD, Nairobi)

1987-90 Scientific Adviser on Trypanosomiasis Trypanotolerance Research Programme.

12. International Trypanotolerance Centre (ITC), The Gambia

1987-96 Member of Council and of Executive Committee.

1990-96 Chairman of Research Programme Committee.

13. Commission of the European Communities

- 1981 Consultant to advise on Funding Requirements of The International Trypanotolerance Centre (ITC), The Gambia, West Africa.
- 1991 Life Sciences and Technologies for Developing Countries (STD 3). Member of Expert Group Evaluation.

14. Agricultural and Food Research Council (AFRC)

- 1991-93 Member of Animal Research Grants Board.
- 1992-93 Member of Veterinary Research Fellowship Panel.
- 1992 Member of Visiting Group to the AFRC Institute of Animal Health Pirbright.

15. The Zoological Society of Glasgow and the West of Scotland

- 1985-93 Member of Council of Calderpark Zoo, Glasgow.

16. The Royal Society of Edinburgh

- 1990-93 Member of Sectional Committee.
- 2004-08 Member of Sectional Committee.

17. The Hannah Research Institute

- 1991-94 Member of Council.
- 1994-98 Consultative Panel for the Biological Industries.

18. The Scottish Agricultural College (SAC). The National College for Food, Land and Environmental Studies

- 1992-95 Member of Board.
- 1995-97 Member of Board on new National Council (responsible for Animal Health and Welfare).

19. Department for International Development (DFID/ODA)

- 1987 Scientific Adviser on Animal Health in Kenya.
- 1988 STRIPE Review on Tsetse and Trypanosomiasis Policy. Report accepted and recommendations implemented.
- 1990-91 Review of Tsetse Research Laboratory, Bristol.
- 1991 Consultant on Animal Health Review.
- 1991-95 ODA/NRED Animal Health Programme Advisory Committee.
- 1998 Consultant review of DFID-funded Tsetse and Trypanosome Work 1980-97.
- 1998-01 DFID Livestock Programme Advisory Committee.
- 1999-02 Animal Health Consultant on Livestock Disease Economics.
- 2000 Review of Point-of-Care haemoglobin measuring equipment/procedures appropriate for use in equatorial regions.

20. International Foundation for Science (Sweden)

- 1994-03 Permanent Adviser.

21. Commonwealth Scholarship Commission in the United Kingdom

- 1997-08 Panel Adviser: Commonwealth Scholarship/Fellowship Plan

X.2. Technology Transfer and Business Consultances (Paid)

1. Merck Sharp and Dhome 1967 Functional aspects of anthelmintics.
2. LKB (Sweden) 1972 Ultramicrotomy and light microscopy.
3. Carnation Milk 1974 Influence of dry foods on the development of urolithiasis in the cat.
4. May & Baker 1981-86 Cost effectiveness of trypanocides Pharmaceuticals.

5. RMB Animal Health 1988-89 Novel anthelmintics and trypanocidal drugs.
6. VetTest Ltd 1989-92 Development of new technology for blood chemical diagnosis.
7. Dunbartonshire Enterprise 1992-94 Biomedical Research.
8. Zynocyte Ltd 1993-97 Development of Haematology Analyser.
9. HemaTek Ltd 1998-03 Point-of-care Technology.

XI. ACADEMIC DIARY: Glasgow, Africa and The World

1962 and Onwards

Teaching, Research, Building, Technology Transfer, Business and Social Activities

1. Glasgow: 1962-1963

In 1962, I graduated as the top student with the McCall Award. The 62 Year was recognised as the best year to date with a pass rate of over 70%; the pass in all previous years ranged from 30 to 50%. I was awarded one of the two Animal Health Trust Post-Graduate Scholarships available in the UK (I also received offers from ARC and Horse Race Betting Levy Board). This award was for training in Pathology and Parasitology under Bill Jarrett and George Urquhart in what could be regarded as the best Veterinary Research Team in the world, focusing on bovine ostertagiasis (abattoir survey of bovine abomasums etc.) and *Nippostrongylus brasiliensis* in rats. What an Honour! At lunchtime we played Bridge with our technicians, including Sheila Cranstoun and Celia Hegarty. I used the 'Akol System'.

I ordered a Mini-£499.00. It was red of course. They had just come on the market. Unfortunately, Dad had a heart attack (aged 49), and I cancelled the order. I was now the only bread winner. Every Sunday Night at Nitshill I used to make tablet, listening to "Sing Something Simple" on the radio. I had done this for several years, but now I took some into the Vet School for tasting. However, I had to stop as some of my colleagues were upset, claiming unfair distribution.

I attended my first conference, the AVTRW at Brighton in 1963. On the road home we stopped in London where the charismatic George Crighton took Hugh Pirie and me for dinner at the iconic Casa Pepe Restaurant in Soho's Dean Street. There we drank a bottle of TioTepe sherry ordered by George. We became great friends for evermore. George was a dapper dresser, wore a bowler hat on occasions and was a wonderful *bon viveur*. He had been a very successful Small Animal Practitioner, working with the iconic Eddie Straighton of BBC Radio fame, both Glasgow Graduates. He returned to the Vet School to do a PhD in Bill Jarrett's Cat Leukaemia Group. George and I frequented the Curlers, the famous pub in Byres Road, he lived just around the corner in Kersland Street with his wife Mary, also a Glasgow Vet Graduate, and four children: he introduced me to Ferraris, the famous restaurant in Sauchiehall Street. He generously gave me £60 for my 'Safari' to Kenya (**cf., next**). George and Hugh followed me to Nairobi in 1965. George and Hugh were **GREAT GUYS !!!** Norrie Wright, my best friend

at College continued our friendship, starting on our first year at Vet School in October 1957 to the present day.



1957 7th October Class of 1957-62: Outside Zoology, Glasgow University. I am in the middle row 5th from the right with Norman Wright on my left hand side, and Os Jarrett 2nd from the left in the same row.



The Class of 1957-62 “Doon the Watter” on my left hand side Norrie Wright

2. East Africa: Kenya: 1963-1965

(Picture Story p.28, Box File XXI:7.2.1,2, DVDs Kenya Vols 1 and 2)

In 1963 Bill Jarrett invited me to join the Glasgow Team led by Ian McIntyre in a great adventure to Kenya. Funded by The Rockefeller Foundation and Glasgow University, the objective was to develop Veterinary Education in Sub Saharan Africa. This for me was an amazing personal and professional life changing experience. It was my first time abroad and it layed the basis of my future, particularly in Africa. Within a year of graduating, I was involved in an array of activies, namely, developing a Vet School, employed in Tropical Disease Research, including working as a Consultant with Bill Jarrett for the Kenya Game Department, participating in the famous East Africa Car Safari, travelling throughout East Africa by Land and Air (Piper Cherokee), meeting amazing people, including, Dauphne and David Sheldrick of Tsavo fame, and from 1963, the Year of Independence, helping to plan the future **(XXI:3.1)**.

This is the story: In the early 1960's, 'The Wind of Change' was sweeping across Africa and numerous independent states were emerging. A major challenge to many of these nations was that their economies, which were based largely on livestock and agriculture, were under massive threat from infectious diseases of animals and of man. Animal health was almost totally dependent on expatriate Vets assisted by local animal health assistants, eg., in Kenya there were two local professionally qualified Veterinary Surgeons (one trained in the USA and the other in Edinburgh). In East Africa, there was a fledgling Veterinary School in Nairobi, part of The University College Nairobi within The University of East Africa.

Spurred by George Urquhart who had gone to Kenya in the late 50s to become Head of Parasitology at the East African Veterinary Research Organization (EAVRO) at Muguga, and advised by Sir William Weipers, in 1960 Ian McIntyre sailed to New York, with his MG midget sports car on board, and presented a proposal to the Rockefeller Foundation. This meeting established a relationship with The Rockefeller that was to last for over 40 years. Funded by The Rockefeller, a masterplan, popularly known as The Conversion Course, was prepared in consultation with the University of East Africa, and in August 1963 a team from Glasgow led by Ian McIntyre and, including, Bill Jarrett, George Urquhart, Bill Martin and Families travelled to Kenya by Sea and Air. They were accompanied by several young members of staff, including myself, technical staff and secretaries, nearly 40 in the first wave.

Ian quickly integrated this team with personnel from the fledgling Vet School at the Kabete and Chiromo campuses, from the East African Veterinary Research Organisation (EAVRO) at Muguga, including, the famous Walter Plowright (he developed the Rinderpest Vaccine that eventually eradicated the disease from Africa-I held joint student seminars with him during the Conversion Course), the Government Veterinary Laboratories at Kabete, the Wellcome Research Laboratories at Kabete and, visiting staff from Veterinary Schools in Giessen (Germany), Fort Collins (Colorado, USA) and Oslo (Norway).

The plan was as follows. Some 40 Animal Health Assistants, Paraveterinary Diplomates from The University of Makerere, Uganda (Kenyans, Ugandans, and Tanzanians), were selected in October 1963. These Diplomates underwent an intensive 48 week clinically led multidisciplinary course, upgrading them to internationally recognised degree standards. There was an extra term for those who failed the Final Examination first time. In November 1964, the Veterinary Diplomates were presented for Graduation by Ian McIntyre to the Chancellor, Jomo Kenyatta, who had become the first president of Kenya in 1963, to President Julius Nyerere of Tanzania, to the Vice-President of Uganda and to Malcolm MacDonald, the British High Commissioner. These were some of the first graduates of The University College Nairobi, The University of East Africa (previously students had received graduate status from Universities out with Africa). These graduates subsequently came to occupy many of the most senior Veterinary Positions throughout Africa.

Concurrently, a five-year curriculum was embedded into the Veterinary School. The format for this, as with the conversion course, was a clinically driven horizontal vertical integrated operation. This approach was subsequently evolved to progress the Veterinary Course in Glasgow and was later adopted throughout the UK and elsewhere.

The Veterinary School became a Faculty of the University College Nairobi, in the University of East Africa, in 1965 with Ian McIntyre as founding Dean, a post he held for 3½ years on secondment from Glasgow.

During this time, I was responsible for a busy Post-Mortem Room, setting up a Clinical-Pathology Database, lecturing and carrying out a disease survey of wild and domestic animal diseases of East Africa. Between 1963 and 1965 I performed over 1200 post-mortem examinations including wildlife. I was involved in a variety of research programmes with Bill Jarrett and Bill Martin on diseases affecting domestic animals as well as wildlife, such as papillomas in association with vulvo-cutaneous carcinomas in cattle, transmissible venereal tumour in dogs and *Spirocerca lupi* in dogs and wild cats, a putative cause of oesophageal

sarcomas, all relevant to future cancer research. Bill Martin and I carried out transmission studies on Ephemeral Fever in cattle which was raging through Kenya.

Bill Jarrett and I acted as Consultants for the Kenya Game* Department starting in December 1963, working with Famous Wild-Life Experts, including Tony Harthorn, Carr Hartley and his sons, and David and Dauphne Sheldrick at Tsavo National Park. In 2000, Dauphne was awarded an Honorary DVMS by Glasgow University for outstanding work on Elephants, particularly babies (**I was Nominator and Orator: XXI:4.9**). In December 1963, while investigating the problem of deaths in rare Hunters Antelope being transported by the British Army from the Tana River to the Tsavo at Voi, where the Sheldricks were based, with Tony Harthorn I was flown from Wilson Airport in Nairobi in a four-seater Piper Cherokee to the Tsavo (It was the first time I had flown). While in the air the Army Convoy contacted us by radio to say that some of the antelopes had died. We landed on a murram road east of Voi where I carried out post-mortem examinations on several animals; white skeletal muscle diagnostic of Muscular Dystrophy was obvious. Subsequently with Bill Jarrett, we found in the Tsavo and Serengeti Wildlife Reserves, that the problem of Muscular Dystrophy was widespread in Antelope, including the rare Hunters Antelope; it is a treatable Vit E/ Selenium deficiency that occurs in cattle in Scotland (**DVM Thesis, 'Animal Diseases of East Africa. A Study of their Incidence and Pathology', Glasgow 1970**).

The pilot of the Piper Cherokee was a David Drummond who had been in the Police Special Forces in Kenya during the Kikuyu Mau Mau unrest in the 1950s. He was the man who helped capture Mau Mau leaders, including Didan Kimathi and Harun in The Aberdare Mountains-with subsequent books Bwana Drum and 'Hunt for Kimathi'. Over 20 years later I met him again at ILRAD where his wife Hilary Elsworth was The Director's secretary. I did not recognise him at first, then it dawned on us. I found out that he had later become Ian Smith's bodyguard (Southern Rhodesia's Prime Minister), then Jomo Kenyatta's. Another coincidence was that it was on his Father's Farm at Ol Donyo Sabuk near Thika, a Scot, I diagnosed Fluorosis in his cattle and then found it was widespread problem not only in cattle but also in humans throughout Kenya.

In 1964, Bill Martin and I were awarded Nairobi City Fellowships by Nairobi City Council. The sum of £2000 was provided to support his work on Virology and mine on Wildlife, and Fluorosis.

*The term Game was soon replaced by Wild Life for obvious reasons

Over this period, the limited facilities at Kabete were complimented by the building of new state-of-the art Technology and Research Laboratories with funds obtained by Ian McIntyre *et al* from the United States Agency for International Development (USAID).

The lack of qualified Veterinary Surgeons in Kenya was also reflected by the lack of Doctors. In 1964, Ian McIntyre made contact with the University of Glasgow and the Medical School. Soon afterwards, Sir Charles Fleming, Dean of the Medical Faculty, Professor William Arthur Mackey and colleagues visited Nairobi on a ‘safari’ that resulted in the establishment of a Medical School, with a Medical Faculty opening in 1967. The initial funding was from the Overseas Development Administration (ODA, UK). I formed strong relationships with the Glasgow Medics and their families that lasted a lifetime.

Over the next decade, more than 100 members of staff from Glasgow with their families rotated through Nairobi Veterinary School. Many of the lessons we learned during the Conversion Course days were taken back to Glasgow and unquestionably contributed to our future Academic and Research Success. The contribution of Glasgow University was officially described by the British Government at the time as “the biggest effort so far made by a British University in African Higher Education”. Later in the decade when the East African Confederation broke up Ian McIntyre and colleagues were involved in progressing the new Veterinary Schools at Makerere (Uganda) and Sokoine (Tanzania), and advising on the curriculum at Lusaka (Zambia) and Harare (Zimbabwe).

Personal and Social Experience

In August 1963, I had sailed to Kenya on The Kenya Castle (12000 tons) with Douglas McEwan and Ian Glen and the McIntyre Family. We were in Third Class and Ian *et al* were in First Class: our ticket cost £149. The voyage lasted 3 weeks. It was a fantastic experience. We stopped at Gibraltar, where I bought a bottle of Grants Whisky for 2 shillings and 6 pence, then Genoa, Port Said, Suez Canal and Aden where I bought a pair of very large powerful binoculars, and finally Mombasa. We had lots of fun on board—I reached the Finals of the Bridge Competition—I had a very good partner, we were second in the Fancy Dress Evening, and we dined at the Captains table with the McIntyres on the last night. We disembarked at Mombasa and then travelled up to Nairobi by train on the famous ‘LUNATIC EXPRESS’.

I shared a house at Kabete (about 7 miles north of Nairobi) with Douglas McEwan, Ian Glen, Paul Sayer and Thiongo, our House Boy. We had a big garden

and an Alsatian, called Jet and her two pups. Our 'Shamba' was next to the Vet Faculty Farm which was managed by Alan Carles and his exotic wife. We were 5 minutes from the Veterinary Campus. Freyda Davies, Morann Paterson and Gladys Holmes (Pathology and Biochemistry technicians and a Secretary), who flew out on the infamous Comet jet aircraft, were in a flat on the Campus—we almost lived there. We, The Boys, were given a brand new light blue Morris 1100 (KHP 571) and the Girls got a green Mini. Three other technicians arrived in 1963, Maureen Flannigan (Bill Martin's fantastic Virology technician), Celia Hegarty (Pathology) and Brian Leitch (Parasitology) and wife Dorothy. In 1964, we had visits from Sir William Weipers and Sydney Jennings, both surgeons who, while at Kabete operated unsuccessfully on a lion with a broken leg that was being sent by President Jomo Kenyatta to President Haile Selassa of Ethiopia-it never got to Ethiopia. More staff continued to arrive in 1964, including, Elma McGruer of the famous yacht building family at Clynder, who became Ian McIntyre's secretary and married Paul Sayer, Tom Miller (Parasitologist-Hookworm Vaccine) with family and two technicians, Frank and Irene Jennings and Family, Craig Sharp and his glamorous girl friend Margaret Cochrane, Tom Douglas (biochemist) and Family, Jimmy and Maret Campbell (Surgeon) and Family, Hugh Miller, and Jim Duncan.

The Glasgow Team integrated well into the social and academic life of the University, as well as the various Clubs, key to the infrastructure of Kenya, eg., Kabete Club, Muguga Club, Limuru Club, Nairobi Club and the famous Muthaiga Club ('White Mischief' and Karen Blixen-'Out of Africa'). We had an amazing Social Experience, eating out, attending functions, and travelling throughout East Africa-I grew up. Restaurants frequently frequented were the Norfolk Hotel, The New Stanley Grill, the famous Bobby's Bistro, Lavarinis on Government Road, and fantastic Chinese (I once hosted seven girls) and Curry houses. We went regularly for Friday lunch of egg curry, or prawns when we had sufficient funds, or to the famous Sunday Curry at the Norfolk, all of which were still there when Christine and I returned in 1976. Some evenings were so convivial that visitors missed their Flight back to UK eg., Ted Fisher. On Sunday afternoons when we did not go fishing for tilapia, for our supper, at Lake Navaisha in flat bottomed boats, we went to the Horse Racing at Ngong, a well patronised scene for the Kenya Old Guard (the Delameres, Beryl Malcolm etc., from the White Highlands).

In December 1963, we attended the Uhuru Ball (Freedom-Independence): many whites did not attend because of security concerns but Ian McIntyre said 'Hakuna Matata'-No Worries, and there were none. Kenya became independent on the 12th of December with Prince Philip representing The Queen. The famous South African singer Miriam Makeba entertained us to a great experience. On the road home, we purloined a 4 foot in diameter Uhuru Celebration Sign from Uhuru

Avenue (previously called Princess Elizabeth Way). This eventually ended up in Scotland.

In January 1964, we (Morann, Gladys and Paul Sayer) went to the Caledonian Society Ball in Evening Dress. After the Ball was over, we drove out to Embakasi Airport for coffee. Then on the road home we decided not to turn right for Nairobi but left for Mombasa 300 miles away. We were in the little green Mini and Evening Dress. When we arrived in Mombasa on Sunday morning having traversed 19 drifts-we were not feeling so elated. We went to friends of Paul, John and Marion Devine on Mombasa Island (John was Harbour Master at Kilindini Harbour) where we were able to change from Dinner Jackets and Ball Gowns, and then spend the day on the beach. On Monday we returned to Nairobi. A good tale to tell but not to experience!!!

Over this time, I travelled widely in East Africa. As well as to Lake Naivasha in the Rift Valley and travelled further north to Nakuru to visit Paul's parents, and support Ian McIntyre and Bill Martin racing their cars round Nakuru Race Track-Bill always won: to the Tea Hotel at Kericho, surrounded by large tea plantations, and then on to Kisumu on Lake Victoria, the largest lake in Africa and source of the river Nile. We visited several Game Reserves, including Amboseli, looking towards Mount Kilimanjaro: on one occasion when Douglas was driving our KHP 571 we glanced off an oncoming car. We landed on our side, we got out without a scratch, righted the car and drove on to meet the Girls at the Lodge. We also went to Tsavo on a few occasions, at Kilaguni and at Voi (The Sheldricks). We visited Nairobi National Game Park regularly. Early on, I practiced my driving there; I had not driven since I passed my test in 1961 in Paisley and the roads in The Park were very "Quiet"?

I went hunting with Bill Jarrett and Freyda Davies. We shot Antelope in our survey of Muscular Dystrophy (I have a Topi skull in the hall at Ledcameroch), which we found to be a common occurrence, and Zebra for haemoparasites. I also hunted for Guinea Fowl (delicious) with Bill Martin and George Urquhart; we believed and confirmed that they acted as transport hosts of *Spirocerca lupi* a parasite that was a common problem in dogs and I also found in a Cheetah. It was already known that various species of birds could act as carrier/transport hosts and became infected by eating corrophagous beetles which acted as intermediate hosts. These safaris were funded by Nairobi City Council and approved by the Kenya Game Department. On one occasion, I was taken by Carr Hartley, the famous Great White Hunter, on a Rhino catching safari: the Rhinos were lassoed-frightening and exciting. I later visited Carr Hartley's Wildlife Ranch in Rumuruti and met his sons, one of whom married a daughter of Dauphne Sheldrick. I met

her nearly 40 years later when Dauphne got her Honorary DVMS at Glasgow in 2000.

We visited Mombasa several times. With Douglas and Ian we camped at Malindi, on the coast about 70 miles north of Mombasa. With the Girls, we stayed at Jardini Hotel on Diani Beach, south of Mombasa, lunching at the Oceanic Hotel on the road home. I also went to Mombasa with the Martin Family and Elma. During my time, I regularly played squash at Muguga-I became quite good, tennis at Kabete, and the occasional round of Golf at Kabete and Limuru-I had taken my Golf Clubs with me to Kenya-I had got them when I was 16 from the Coop.

In early 1964, I bought a dark blue Saab (£550 KHT 550, on George Urquhart's advice) with a 2 - stroke engine and a column gear change. At Bosa's House my life style was different Douglas and Ian's, and sharing KHP 571 was too complicated. Consequently, with Morann and Gladys we planned a Safari, a circular tour of Uganda, via Eldoret. We visited Tororo just across the Ugandan border where the Famous/Infamous Matt Cunningham was based at the East African Trypanosomiasis Research Organization (EATRO), and then North to Mbale. From there we travelled west to Murchison Falls National Park, cruised up the Albert Nile to Murchison Falls at the north end of Lake Albert which receives the Nile from the southeast traversing Uganda from its source in Lake Victoria. This was the route confirmed by Stanley, building on the efforts of Speke, Burton, Baker, Grant and most of all David Livingstone, a Glasgow Medical Graduate. We disembarked at the bottom of the falls and climbed to the top to view the awesome cascade through a gap that was only 7 metres wide, clothed in several rainbows. We then travelled to Kasese a small town looking west to the Rwenzoris, the famous haunting Mountains of the Moon. Next was a small ferry across the Kazinga Channel from Lake George to Lake Edward to the Queen Elizabeth National Park. We then travelled further south across the Ankoli District, with its iconic *Bos indicus* cattle with huge horns, to Kabale on the south west border of Uganda with Rwanda/Congo. We stayed in the White Horse Inn which was full of priests and mercenaries crossing various borders. Next was east to the Lake Hotel on the shores of Lake Victoria at Entebbe with its International Airport and East African Virus Research Institute, thence to Kampala and then south east to Jinja on Lake Victoria, a major commercial centre, Uganda's second largest town, full of Asians, later expelled by Idi Amin, mainly to the UK, then back home to Kenya. A COMPLETE CIRCLE.

When Douglas and Ian returned to Glasgow in the mid-1964, I moved to a small bungalow (linked to two others) on a huge estate occupied by the East African Veterinary Research Organisation (EAVRO) at Muguga, several miles north of Kabete. Next door was David Brown, a friend of Ted Fisher, who worked on

rinderpest at EAVRO. His small bungalow was full of paintings-he later became Director of the famous Tate (Art) Gallery in London. The Martins, Urquharts and Jarretts stayed in family villas also at Muguga. I was very friendly with all of them, partly because all their children preferred travelling in my Saab; everyone else had MG 1100s.

Now a true story: In late 1964, leaving Nairobi on route home to Muguga (Maureen Flannigan was in the Saab), going round the roundabout on Prince Elizabeth Way near the Norfolk, I saw two Scottish soldiers-they had touries on their bonnets-thumbng for a lift. Thus, Bar and Pete joined us. They were absent without leave from Gilgil, a garrison town on the road to Nakuru, north of Navaisha and many miles north of Muguga. It turned out that Bar was called Bar because he had served time in Barlinnie Prison, and Pete was called Pete as he had been in Peterhead Prison, or “Peterheed” to quote Pete. Our accents became broader!!! They were Cameronians (Glasgow’s ‘Poisoned Dwarfs’) but they wanted to be Gordon Highlanders. They were looking forward to Guard Duty at Buckingham Palace. At last we got to the turn off for Muguga where we dropped Bar and Pete off at a small hotel/petrol station, with hearty farewells. They still had another 30 miles to go. The following morning I had to visit Muguga Police Station-why I cannot remember. Surprise, surprise Bar and Pete were there. According to them there had been a minor misunderstanding at the hotel. According to the Police, they had tried to hold up the hotel at knife point. I made a hasty retreat, reflecting that perhaps we were fortunate not to have been hijacked to Gilgil or even worse, as had been the wont with some British Soldiers in the past.

In 1964 and 1965, Ian McIntyre and Bill Martin participated in the famous East Africa Car Rally. In ’64, they drove an MG1100, and, in 1965, an iconic Red and Black Mini Cooper (SKG 768), the first in East Africa. The whole Vet School, including myself were members of the Support Team. In 64, due to a technical problem in Ian and Bill’s car just before their starting time, I was forced to interrupt my journey to a fancy dress party at Morann’s-I was dressed in Morann’s shorty night-dress. I had to go to the EA Safari Start as the cars were being waved off to inform The Team Manager that there was a problem-I was jeered by thousands of spectators-but that is another story. They did well and nearly completed the first circuit. I stayed for the 1965 East African Safari, in which Ian and Bill started immediately in front of Erik Carlsson (World Champion Car Rally-Saab) and Stirling Moss. Ian told them that he would let them pass? Unfortunately, Ian and Bill did not get very far.

Then back to Glasgow for another great adventure.

PICTURE STORY Kenya 1963-65



1963 August: Kenya Castle: Ian McIntyre, Ian Glen, Me, Douglas McEwan



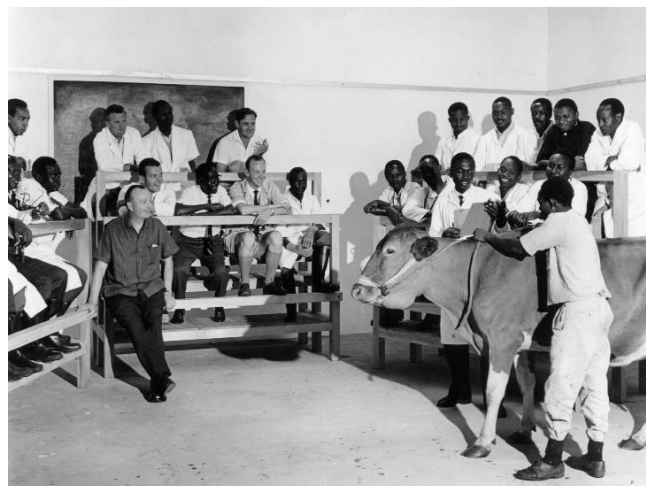
1963 Bosa's House Kabete near Vet School: Our House-Paul Sayer, Ian Glen, Douglas McEwan and Me, with Thiongo our Kikuyu House Boy



1963 Veterinary Faculty Kabete



1963 Post Mortem Room Kabete: Me



1963 Clinical Pathology Demonstration: Ian McIntyre *et al*



1963-65 My Lab and Office at Kabete



1963 Me, Douglas, Thiongo (our Houseboy), Ian outside Veterinary Clinic



1963 Me, Embakasi Airport to meet The Martin Family. Our shared Morris 1100.



1963 Me, Our Girls Gladys Holmes, Freyda Davies, Morann Paterson, Embakasi Airport to welcome The Martin Family



1963 Christmas at The Girls Flat at Kabete: Maureen Flannigan, Douglas, Freyda, Me, Celia, Dorothy and Brian Leech, and Morann



1963 Christmas continued.



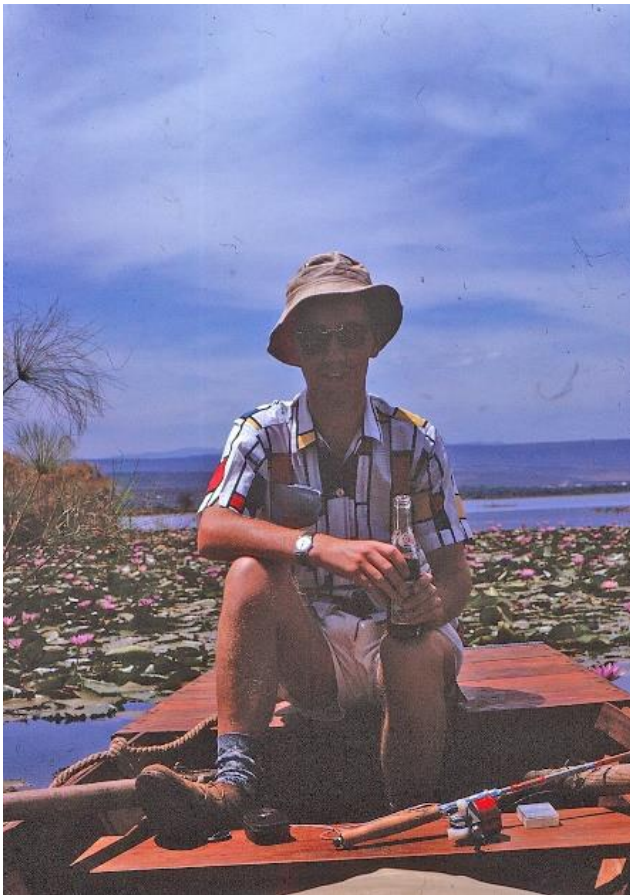
1963 Me Camping at Malindi north of Mombasa.



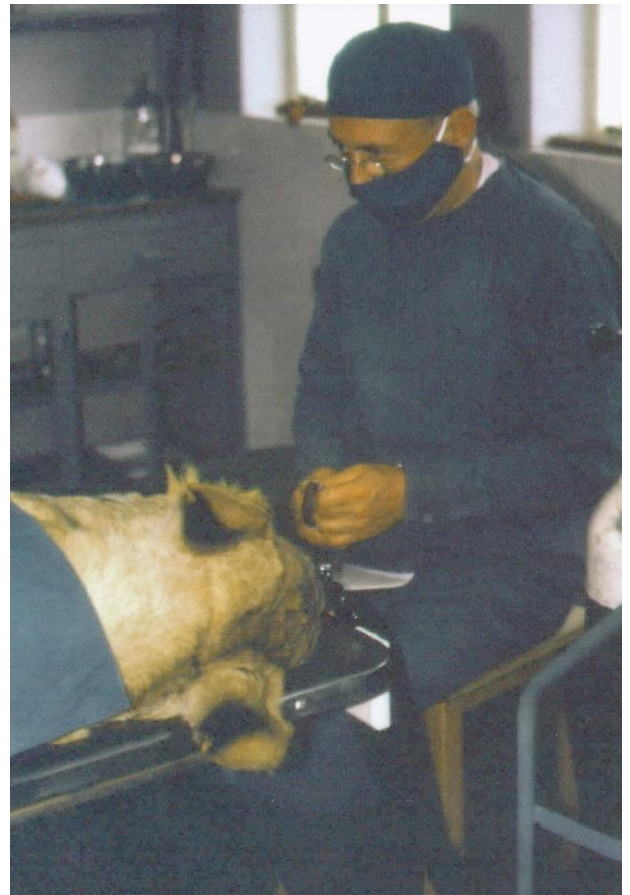
1964 My New Saab at the Equator on Safari to Nanyuki



1964 March/April: Bill and son Billy Martin, Our East African Safari MG 1100.



1964 Me Fishing on Lake Naivasha



Sydney Jennings operating on Haile Selassie's Lion



President visits Vet School at Kabete

1964 November: President Kenyatta Graduation



1964 November Graduation of Conversion Course Vets: Bill Martin, Bill Jarrett and George Urquhart



1964 Me *et al*: On Safari Shooting Guinea Fowl/Antelope Wild Life Project.



1964 Topi Antelope in Maasai Mara: Muscular Dystrophy Survey



1964 Me Paul and The Girls in Amboseli Game Reserve (our car flipped?)



1964 Tsavo River: Lion and Wildebeest.

3. Glasgow 1965-1975

(Picture Story p.51, XXI:7.2.2, DVD The Murrays 1965-72)

In April 1965, I returned to Glasgow via Addis Ababa and Khartoum and London, with the Martin Family-Mamie *et al* minus Bill who remained in Nairobi. Mum and Dad met me at Renfrew Airport and we went home to 253 Nitshill Road, where I stayed off and on until I went to Geneva in 1975. Almost immediately I met Jimmy Armour another Rangers fanatic and a World Class Golfer (Jimmy won The British Boys Amateur Championship in 1948 at Royal Liverpool Hoylake) and we went off to Wembley, England 2 Scotland 2 with Willie Henderson of Rangers on the right wing. I met all Jimmy's friends at Berkhamsted, including the 'Famous' Pa Broon (**Peter Brown cf., later VetTest XIX:2**). Next, I bought a brand new blue MG 1100 (CVO 650C) with twin carburettors and hydrolastic suspension-absolutely state-of-the-art.

The following 10 years were tumultuous. I had an incredible exciting time in research and teaching, and in travelling the world. I met Christine whom I loved and with whom I wished to spend the rest of my life. We first met in February 1971 when I interviewed her for a job as a Research Assistant with Bill Jarrett and surprise surprise she got it. I asked her out during the interview but unfortunately her fiancé was waiting outside in the car. I attended her wedding. Fortunately for me their marriage did not work out and we came together at a Path Party when I came back from The Gambia in July 1974.

In April 1965, I was appointed lecturer in Experimental Veterinary Medicine, then in 1968 Veterinary Pathology, when Pathology at Buccleugh Street moved out to Garscube and Bill Jarrett became overall Professor, and in 1973 Senior Lecturer. I had an office in Parasitology (1965-68) and then in the new paraclinical building where Pathology was located (1968-75).

My major commitments were in multidisciplinary teaching, the hospital pathology service, and research in pathogenesis of parasitic infections, including the model system of *Nippostrongylus brasiliensis* in the rat, and ostertagiasis and fascioliasis in ruminants. In the early 70s, I developed a major interest in African trypanosomiasis in animals and man, including model systems in rodents. This interest became a passion and was to play a key role in my future, and with increasing involvement in Africa. I obtained a PhD on "Pathogenesis of Bovine Ostertagiasis" in 1968, and a DVM "Animal Diseases of East Africa, A Study of Their Incidence and Pathogenesis" in 1970, having submitted it in 1966, but that is another story in political pathology.



1970 Mum Dad My DVM Graduation

We had Fantastic Academic and a Fantastic Social Infrastructure within and between Departments.

I was privileged to work with a large number of brilliant and hospitable people, in particular, Bill Jarrett (Pathologist FRS, Nobel Nominee), Ian McIntyre (first Professor of Veterinary Medicine in the UK), George Urquhart (first Professor of Parasitology in the UK), Frank Jennings (an inventive Biochemist) and Jimmy Armour (an amazing Parasitologist): a wonderful Multidisciplinary Array of Talent that worked in an Interdisciplinary Fashion. They themselves attracted bright young graduates, including, Norman Wright my classmate and best friend (In 1962, Norrie had gone into General Practice with McKenzie, Bryson and Marshall, the Famous Practice in Kilmarnock, and then in 63 joined Pathology in Buccleuch Street and came to Garscube in 1968), Hugh Pirie (Pathologist), Ted Fisher (Physiologist/Clinician), George Crichton (a brilliant Clinician and wonderful Philosopher), and later in life Os Jarrett (class mate and Virologist), and heirs who consolidated and expanded their achievements to the present (**XIII:1.180**). We often went to the College Club in the main University for lunch or for a curry in the West End, and of course a range of pubs

A key in my career as a Pathologist was Jimmy Murphy, with the able assistance of Richard Irvine: Jimmy was the Emperor of the Post-Mortem Room. His role lasted over 40 years. He was a remarkable, tough, hard working, charismatic character who ran a spotlessly efficient operation on behalf of Bill Jarrett. His Mantra for gross organ assessment was the 2 CCs and the 2 SSs-Colour, Consistency, Size and Shape. His powers of observation were unsurpassed, as he prepared the huge number of necropsies that passed through his hands. These were from the major research programmes in Parasitology, Virology and Cancer, etc etc., as well as the Clinical Cases that came through the small animal and

equine hospitals, and the farm animals purchased for clinical teaching purposes. Then there were the famous Clinical-Pathology Post-Mortem Demonstrations attended by Third, Fourth and Final Year Students and the relevant Staff from Pathology and Clinical Departments. The stream of students and young pathologists who trained under Jimmy Murphy received a remarkable experience. Jimmy was also a fully qualified Meat Inspector and was responsible for the certified Abattoir at Garscube. There were many favoured members of staff such as myself who were able to delight in the experience of well butchered well hung meat. My Mum did not need to buy meat from 1965 to 1975.

Another key figure for me was Archie Finnie. Weipers and Bill Jarrett appreciated fully the significance of using equipment of the highest quality such as microscopes-all our microscopes were Leitz, a company with which I became closely associated right into my ILRAD days. This included the importance of pictorial exposition for teaching, research and for conferences. Thus, Archie Finnie, a professional photographer, was employed from the 1950s, to be joined in the 1970s by Alan May. The quality of their work was unsurpassed and it is no over statement that Glasgow had a world class reputation not only for its research and teaching, but also for the high quality and innovative pictorial presentations. I think it is safe to say that I was of one of their star pupils and gained a world wide reputation in Pictorial Presentation.

We had latest state-of-the-art equipment eg., the latest Leitz microscopes many fitted with cameras, Overhead Projectors for weekly Departmental Diagnostic Sessions. We had top class Research Assistants, great technicians, several of whom I employed from school, in particular in 1968 Dorothy Fleming (mini-skirts were rife), Rosemary Brown (Rosie who became a life long friend and when we left for ILRAD and Africa she set up Easterton Stables just outside Milngavie with her partner David Ralston), Fiona Douglas, and in the early 1970s Sheila Orr. Sheila married Ivan Morrison and they had four children. In 1975, Ivan finished his PhD with Norman Wright and I took him and his Family to ILRAD as the first Post-Doc to be employed. They stayed for 15 years. Ivan became an Immunologist/Pathologist of international status, and is now finishing his career as a Professor at The Dick in Edinburgh. In 1969 Alan Waddell (and his family), a parasitologist from Brisbane Vet School, came for a year's Sabbatical with us. He demonstrated the effect of sex on worm expulsion of *Nippostrongylus brasiliensis* in rats. He was a great fun guy and friend. In the 1970s, I obtained my own research funding from the ARC and Wellcome with which I took on Carol Grierson, a class mate of Christines, as a Research Assistant, paid Sheila's salary and two other technicians, and three post-graduate students, Peter Robinson and Bernie Rushton and his wife.

We had great secretaries, Betty Paterson, the boss, Jess Black who came up from Buccleugh Street and with whom I was wrongly accused of having an affair- unfortunately she left immediately, and the beautiful Mary Hunter of Hot Pants Fame, who continued to look after me even when Christine and I went to Geneva and then Nairobi.

I spent long hours, days (even Saturday afternoons when Rangers were at Ibrox), weeks, months and years on the Electron Microscope. It was one of the first in the UK and certainly the first in a Vet School. It was in the Pfizer Building opposite the Parasitology Labs. Pfizers Follies, as it was known, a construction of wood which was built to house chickens, but was used to house the EM, as it was the most stable building at Garscube? Helen Laird was in charge of this Unit and gave me huge help and training. At one point, she was Chief Girl Guide for Scotland. She was a member of Bill Jarrett's team that identified the C type Leukaemia Virus particle (a retrovirus), a massive discovery in Cancer Research and AIDS.

My other activities included initiation of an undergraduate Student Vacation Research Programme with financial support for third and fourth year Students. This programme was born out of the Clinical Pathology Post-Mortem Demonstrations; these stimulated several undergraduates to enquire about the possibility of vocational work in our research laboratories. We started this programme in earnest in 1967 with Peter Robinson, Fred McKeating, Ian Duncan, David Smith all of whom published papers as under-graduates. Over the years many of the students who participated have travelled to the top of the Profession world wide in Academia and Research, Commerce, and General Practice.

With Ted Fisher, I prepared a vocabulary and organised a precomputer data retrieval system (punch card) called Termatrix, the first of its kind: It was rapidly replaced by computers starting in the late 70s.

From 1968, I was Curator of the main Vet School Laboratory Animal House located in the basement of the Paraclinical building, now the Jarrett Building with the senior attendants, Margaret Boag and Alan Bradley: there was also the famous Mrs Blair's small facility that I used almost exclusively for my rat Nippo work with Rosie Brown. Then there was Lab Animal Accommodation in the Parasitology-now the Urquhart building where our mouse/rat trypanosomiasis studies were housed. Group Captain Sellars was the stern Government Official for Lab Animals who surprised us with his regular unannounced visits (when he arrived the whisper rapidly traversed The Vet School). In 1971, I was appointed Glasgow University Representative on the Laboratory Animal Science Association replacing Sir William.

I initiated in-house technician training courses in laboratory animal management, histochemistry and electron microscopy, eg., I developed the use of epoxy resin embedded tissues to provide 1-1.5 μm tissue sections using Ultramicrotomes, thus permitting much higher resolution by light microscopy than achievable by standard wax embedded tissues.

I was Departmental Social Secretary and Convenor. I arranged Departmental Parties which were regular and serious—sometimes in Parasitology, sometimes in Pfizer's Follies and later in the 70s in various Labs in Pathology. Moon River was the Song! They were also held at Alreoch, Bill and Anna Jarrett's mansion near Carberth: we had Skiing Parties at Glencoe and Picnics near Balmaha on Loch Lomond. I continued to play squash up at the court at Cochno farm, some tennis, and golf with Norrie Wright, as well as going to Ibrox occasionally.

I travelled the World between 1965 and 1975, attending Conferences, usually in large groups from Glasgow, as well as Meetings, Workshops, Field Studies, visiting Laboratories, Consultancies etc. The first paper I presented on my return from Kenya was a 'movie' on Ephemeral Fever in cattle at the AVTRW Meeting in Glasgow in 1965. I then travelled throughout the UK, especially to AVTRW Conferences at Easter in Scarborough (its permanent home until recently), and to London, usually with the team on the night sleeper-always First Class (once with breakfast at the Savoy etc.), and then in the 70s on British Airways, attending meetings mainly of the British Society of Immunology and the British Society of Parasitology. I invariably gave a paper, often more than one. While always nervous, I was well prepared and pretended not to use notes. I think I could claim that I was regarded as a very good speaker. The papers I gave over this 10 year period were on bovine ostertagiosis, fascioliasis in sheep and cattle, subepithelial mast cell in gastrointestinal immunity, viral infections in cattle, glomerular disease and progressively on African trypanosomiasis.

I visited Europe regularly, including, Paris, Brussels, Antwerp, Amsterdam, Lelystad, Copenhagen, Lyon (WAAVP, 1967) and Vienna (WAAVP, 1973-presented 6 papers), etc. At Lyon and Vienna, Glasgow presented about one third of all papers. I flew to the USA on several occasions. The first time was in **1970** to the World Parasitology Conference in Washington DC. The day we left Heathrow, Sunday 6th of September, three aircraft were hijacked to Dawsons Field, Jordan, the first of an epidemic. Special security action had been put into place at Heathrow. I was wearing a bright red polo neck jumper and white trousers-much to the hilarity of my Colleagues I was taken away for a special examination. Eventually we boarded: I was sitting between Bill Jarrett and Jimmy Armour, on that flight; Bill ordered three dry martinis each to settle our nerves, followed by stories of how he could induce multiple orgasms? The big Glasgow

team stayed at the famous Mayflower Hotel where we smoked Colin Johnstone's pot and charged our drinks to Matt Cunningham. I had an interesting experience when I was presenting my paper. The scene at The George Washington University was a large lecture theatre, with a large audience, with a large stage. When I was about to start a gentleman whom I think was Japanese walked forward and began to speak in a loud voice in 'Japanese?' He was quickly ushered out. I then walked forward and asked for my first slide-nothing happened-the chairman suggested I press the button at the dais where there were a range of buttons and in my panic I pressed one-the stage started to move round away from the audience and I nearly disappeared completely. It was eventually stopped-I was returned to the audience who were in an uproar, and my first slide appeared. My paper was a sensation and my talk one of the 'highlights' of the conference. I then went on to Philadelphia to Colin Johnstone and Lawson Soulsby, and on to Fort Collins Vet School in Colorado to visit Archie Alexander, Professor of Pathology, whom I had met in Glasgow. I gave a seminar and he took me on a long drive into the Rockies. We were later to meet him in Nairobi when he drove into the front gate of our house in Kyuna.

In **1971**, I flew to New York with Jimmy Armour to visit Merck Sharp and Dohme to discuss our Parasitology Research. Engelbert Humperdink was staying at our hotel and we saw him at breakfast. MSD arranged for Jimmy to play the Company Golf Champions at an amazing Country Club. Against my better judgement, I agreed under pressure to make up the foursome-A Bad Call? We all had Caddies and I knew I had to play better than I ever had-unfortunately I didn't, until the last hole when my 5 sclafted shots won the hole, confirmed by my black Caddy-our opponents were very upset and disputed the outcome-I was shattered by the whole experience. Later in the year in August, I travelled to the WAAVP Conference in Mexico with George Urquhart and Frank Jennings via Bermuda, a beautiful place but an unscheduled stop due to a technical problem, then the Bahamas and eventually Mexico City. We shared a room in a rather run down hotel; one night when I was out on the town with Jim Dargie, they would not let me back into our shared room. I gave one of the major papers on the 'Protein Leak'. Mexico is an exciting place which I was to revisit. George (old Iron Guts) got Montezumas Revenge.

We then flew up to Texas, and I went on to Philadelphia where I stayed with Colin Johnstone (Glasgow Graduate, 1977), and with Ruth Leventhall both of whom I had met in Washington DC in 1970. Ruth took me to visit her step father Boris Blai who was a famous Sculptor. I got on with him famously, largely because I was Scottish-he loved Burns and knew Harry Lauder. He had been born in Russia but his parents had been murdered in The Revolution and he had fled to Paris to become a pupil of Rodin. He had been a friend of Czar Nicholas. He had joined the French Army and met at the battle of Verdun, a Scottish/Canadian

Doctor, Robert Tait MacKenzie, who was also an eminent Sculptor (he knew Baden Powell and had sculpted the famous Boy Scout Monument). At the end of the war, MacKenzie returned to Philadelphia Medical School where he had worked before the war. He suggested that Boris come to Philadelphia where Boris settled and married. A few years later when World War I Memorial was being built in Edinburgh, Tait MacKenzie recommend Boris as someone who should be involved. Consequently, Boris designed some of the most iconic relief panel monuments at The War Memorial. Later he founded the Tyler Art School in Temple University, and was involved with the Guggenheim Museum in New York. He took me into his studio to show me the outline sketches of what he had done for The War Memorial: he noted the Scottishness of my face-a rather large broken nose and a broad forehead. On my return I went to see Boris's work in Edinburgh-very moving-Scots with big broken noses and broad foreheads (**check The Web**).

Lawson Soulsby who was then Professor of Veterinary Parasitology in the Vet School in Philadelphia, University of Pennsylvania, offered me a job.

In **1972**, I attended a meeting that would change the whole direction of my future, academically and socially. I was invited to an International Workshop on African Trypanosomiasis hosted by The Rockefeller Foundation at their Conference Centre at the Villa Serbelloni (donated by Johnny Walker Black Label Whisky) at Bellagio, Lake Como, Italy. This was initiated by Ian McIntyre in 1969 (**XXI:3.2.1, p.61**). Present were major world scientists whom I got to know, including, Av Michison FRS, University College London, Elvin Kabat of Columbia University, New York and Nobel Nominee, both regarded as Fathers of Modern Immunology etc., as well as Bill Jarrett, George Urquhart and Ian McIntyre, and representatives from major international organisations, including WHO, FAO World Bank, UNDP, USAID etc. I presented a paper on the Pathology of African Trypanosomiasis using cattle material that Ian had brought from Mkwaja Ranch in Tanzania and from our mouse/rat model in Glasgow. Av was fascinated by the amazing plasma cell response in the lymphoid system-'like a myeloma'. The outcome of this meeting was to have major consequences internationally and personally. Within one year it was decided by the Rockefeller Foundation etc., that the International Laboratory for Research on Animal Diseases (ILRAD) should be established in Kenya.

Also at Serbelloni, it was agreed that there should be an evaluation of the Trypanotolerance Trait in the indigenous *Bos taurus* breeds of cattle in West and Central Africa. Thus, following another Glasgow Concept note, the Rockefeller Foundation funded Ian McIntyre and a team from Glasgow, including, George

Urquhart, Frank Jennings, Keith Murray, Alistair Greig and myself to investigate Trypanotolerance.

On the 6th March **1973**, Ian led us to The Gambia for 4 weeks, the start of a relationship that continues to this day (**Picture Story p.102**). I was payed as a Rockefeller Consultant. It was a safari that altered the rest of my life. Sir Dawda Jawara, The President and a Glasgow Vet Graduate of 1953 and George Urquhart had drawn our attention to the numerous herds of NDama cattle in The Gambia reputed to possess resistance/trypanotolerance to tsetse-transmitted trypanosomiasis. We stayed at the Sunwing Hotel on the coast in the Fajara area. It was packed with Swedish tourists. We were based at the Government Vet Labs at Abuko, Director Wally Ndow, and at the Medical Research Council (MRC) Research Labs at Fajara, Director Sir Ian MacGregor of Malaria fame-I had Post-Morten facilities at both. We also had access to the MRC Laboratory facilities and their housing up country at Keneba in an area of significant tsetse risk. Bakary Sanyang, the senior Animal Health Assistant at the Vet Department, was assigned to us. He was a wonderful man and a brilliant colleague. He was from Brikama, a village near Abuko; he later called one of his sons after me and visited us in Milngavie and in Nairobi. We were also provided with a chauffeur-driven Peugeot 505. Over the next 4 weeks we examined several hundred NDama in areas of low to high tsetse risk, measuring TPR, PCV, and blood for trypanosomes. Some believed that the NDama was totally refractory to infection. This was not the case. We found trypanosome parasitaemia and or anaemia in both healthy animals and those in poor condition. There was little doubt that Ndama became infected, but could survive in tsetse-infested areas where imported exotic breeds and *Bos indicus* types from Senegal could not.

We were made very welcome especially by the Brewer Family, especially because we were Vets. We established a friendship that lasted a life time. Eddy the father, a forester, had established a Wildlife Reserve housing Chimpazees, Sitatonga-rare antelope, hyenas, snakes and vultures etc., at Abuko next to the Government Vet Department where we were located. Two of his daughters, Stella and Heather were also there and fanatical about animals and conservation. Our clinical and surgical skills were in great demand. I operated on an hyena with a neck abscess and a vulture with a broken wing. Stella had a special interest in Chimpanzees, working on their rehabilitation into the wild. She set up a Charity for the Chimps, the Chimpanzee Rehabilitation Trust, which was very successful, published two books and a television programme, was awarded an MBE and in 2006 an Honorary Doctorate from Glasgow (proposed by Stuart Reid and me). Heather was fanatical about horses which unfortunately were difficult to keep alive because of trypanosomiasis. In 2002, Stella and Heather set up The Gambia Horse and Donkey Trust (GHDT) of which I became a Trustee (**XV:4, XIX:5**).

With Jimmy Armour I visited Hans Over in Lelystad, the Netherlands to discuss our work on fascioliasis, and in September made my first contact with Paul Henri Lambert, Head of WHO Immunology Laboratory in Geneva, regarding our Mouse Model for African Trypanosomiasis. I went to Mexico again in December 1973 when I attended a WHO Strategy meeting on Chagas Disease (*Trypanosoma cruzi*) and Human African Trypanosomiasis with Ian McIntyre. There I met Barry Bloom, the eminent immunologist of the Albert Einstein College of Medicine, New York and then Harvard, who later acted as my referee for the Chair of Anatomy in Glasgow in 1975, and Peter DeRaadt of WHO with whom I worked closely until 1988. In Mexico City, we were well looked after by Gonzales de la Fuente, a member of the ruling class and a former PhD student of Ted Fisher. We toured the famous network of canals at Xochimilco, near Mexico, in a trajinera, a canal boat, with entertainment from numerous Mariachi Bands. We climbed the Aztec Pyramids. We visited Mexico City Vet School, where Sydney Jennings was Dean (He was a Senior Lecturer in Equine Surgery at Glasgow and gave me a Distinction and both Surgery Medals in my Finals). He had visited us in Nairobi in 1964 (cf., p.34). Ian McIntyre commandeered Gonzales's brand new white Cadillac convertible and drove me and a WHO secretary to the luxury resort of Acapulco, playground of Hollywood, on the Pacific coast, 190 miles south west of Mexico City: he did not miss a pot-hole. After a few days and a few cocktails, viewing the famous Acapulco Divers, we flew to Mexico City on a rather dodgy plane, leaving Gonzales to collect his Cadillac.

1974 (XXI:4.6 Pivotal Year) was one of the great years of my life. Christine and I came together. In January, I gave a presentation at the Chester Beatty Laboratories in London to Tony Davis's Group on my Mast Cell work. Tony was one of the world's leading Immunologists and Director of the Chester Beatty. My presentation was judged to be sensational and we became life-long friends and collaborators (X1:6, XV:6.3).

In March 1974, I returned to The Gambia-the team included a lazy Belgium Entomologist, Paul van Wetterer. They stayed for 3 weeks and I stayed for 3 months. A white Ford Escort was bought for my use when the rest of the team went home. Field work was continued and experimental studies implemented. Our main Laboratory was now based in the Thomson Block at the MRC Research Labs at Fajara. Ian MacGregor had retired and Bill Bray was Director. We measured anaemia by Packed Red Cell Volume (PCV) in a microhaematocrit capillary tube. Initially, trypanosomes were detected using smears of venous and, or peripheral blood from the ear vein. I found that trypanosomes were concentrated in the Buffy Coat. With Charles Pyne, Senior Technician at the MRC, we developed a new diagnostic technique examining the buffy coat, following PCV measurement, by expressing it on to a slide after cutting off the RBC part of the capillary tube, and viewing by darkground illumination. This was

an order of magnitude more sensitive than all other techniques; species identification was possible, as was semi-quantification of parasitaemia—a major breakthrough. I carried out over 100 necropsies between 1973 and 1976. No other causes of anaemia were found. A common occurrence was the filarid *Onchocerca armillata* in the aorta. Our findings led to the conclusions that the NDama did possess a significant degree of ‘trypanotolerance,’ related to their ability to control parasitaemia, to resist anaemia, and regulate body temperature, in the same way as wildlife, in order to conserve water (**XII. Research Highlights**). We now had the basis to set up a major programme on Trypanotolerance; this led to the establishment of The International Trypanotolerance Centre in the early 80s and a major research and development programme throughout Sub-Saharan Africa (**XI:6**). During our stay, we became very friendly with the Wilkins Family, Andrew, Danae and their two children Thomas(5) and Susannah(3). Andrew was a Doctor, a world expert on Schistosomiasis, who worked at the MRC, where they stayed. They were a wonderful entertaining family; Tom assisted in the post-mortem room. We were active socially, wining and dining, and night-clubs ‘Bye Bye Miss American Pie’ etc. I did some Meat Inspection at midnight in Banjul, often leaving and then returning to the Night Club. I also took part on the stage in the Fajara Club Opera. I bought a lot of locally-made filigree silver jewellery for Mum and later years for Christine, as well as Tie-Dye clothing.

I returned to Glasgow in May. I then participated in our 25 Year Silver Jubilee Anniversary Celebrations in early June, giving several papers. The event was held in Marquees on the lawn down on the estate by the River Kelvin. McIntyre came to the fancy dress party as God and the sun shone the whole week. It rained on the final Saturday when we were taking the Marquees down. At the end of June, I went out to The Gambia for 2 weeks. On the flight down from Glasgow on a Monday evening there was a slight bump and the Captain announced that Billy Bremner had just missed an open goal against Brazil in the World Cup in Germany. Next morning, I flew First Class to The Gambia, British Caledonian via The Canaries. I visited Kaolack in southern Senegal with Heather and Stella with its large horse market of animals from the awful to the beautiful. I returned to the UK with Danae, Tom and Susannah, and Ian McIntyre via the Canary Islands, Casablanca and Malaga where Danae’s relations owned a villa. There I watched the World Cup Final on TV (Germany 2-Holland 1).

Within a few days of my return, Christine and I met at a Path Party. This time it was for real. This was the rest of my life. At the end of July, I presented an invited paper ‘The Pathology of African Trypanosomiasis’, later published, at The Second International Congress of Immunology at Brighton. Howard Goodman, Head of Immunology for WHO, and Chairman of the Session congratulated me and said it was brilliant. This was the beginning of a long relationship with WHO. During this meeting, McIntyre, “my manager”, organised that we stayed in a

luxurious hotel in Bournemouth; McIntyre also invited Danae, Tom and Susannah.

In September, Ian and I went to East Africa, Tanzania and Kenya. I had a very special Gladstone bag, containing knives and a Leitz microscope etc., prepared by Christine—we were on a Safari to look at trypanosomiasis in cattle. We visited the huge Mkwaja Ranch south east of Tanga. It was owned by Amboni Estates, a Swiss Company (Zug) producing Sisal. The Manager, Emile Blaser maintained comprehensive records on some 12000 grade Boran cattle, kept for beef to feed the Sisal workers. The major tsetse-trypanosomiasis risk was controlled by chemoprophylaxis using Samorin (isometamidium chloride), a drug produced by May and Baker, for which I later became a Consultant. We bled numerous cattle and I carried out several necropsies. We advised on the successful control strategy (XIX:4). We then flew from Tanga to Mombasa via Zanzibar on a single engine plane piloted by an Australian. We visited Kilifi Plantations owned by Dennis Wilson whose Father had come to Kenya at the turn of the Century to farm ostrich. The Plantation was a Dairy Ranch of 2500 Ayrshire/Sahiwal cattle, with 800 breeding females. Dennis had been a Submarine Commander during World War 2 and had been stationed on the Clyde—hence his love of Ayrshire cattle which he saw when he returned to port and resurfaced. Although the tsetse risk at Kilifi was deemed to be low, the herd was being decimated regularly by abortion storms caused by trypanosomiasis. A successful control strategy was evolved, whereby, the PCV of cattle was monitored regularly and any animal with a PCV of 29% or less was treated with a chemotherapeutic trypanocidal drug, mainly Berenil. No regular search was made for trypanosomes, and other causes of anaemia were controlled by dipping/anthelmintics (XIX:4). We had a jolly dinner at Mombasa Club drinking Gin and Water and I met an Argentinian International Polo Player who had a Ranch of 2000 Aberdeen Angus in Argentina.

We then flew up to Nairobi, where we had Dinner at Ordway Starnes (he articulated rather than spoke) of the Rockefeller Foundation. There I met Jim Henson of Washington State Vet School who had just been appointed Director General of ILRAD. We had a long chat which proved to be highly significant.

During the remainder of the year I visited Geneva, London and then Geneva again. I went to Geneva with Bill Jarrett to meet Paul-Henri Lambert, Head of the WHO Immunology Laboratory to discuss a possible Sabbatical. We stayed at the Intercontinental. We wine and dined on the fish of Lake Geneva (Lake Lemman) and then Bill went off skiing. It was agreed that I would do a Sabbatical in 1975. Then later in October, I gave an invited paper at a Symposium of The British Society of Parasitology (BSP) in London on the Pathology of Fascioliasis in Ruminants. Then to Amsterdam, then back to Geneva with Ivan Morrison to a

WHO/IAEA Symposium organised by Paul-Henri Lambert, Jim Dargie and Lawson Soulsby. We met up with some of the staff I would work with in 1975, including, Margarit Knoffel and Heidi Gerber. During this period I also was involved in an Allen and Hanburys Think Tank on Dictol in Gatehouse-of-Fleet with Ian McIntyre and Bill Jarrett. In November, I gave invited papers at The Royal Postgraduate Medical School, University of London (Mast Cells-invited by Ian McConnell), and to the Department of Pathology, Bristol University on African Trypanosomiasis.

A new chair of Veterinary Anatomy was created in Glasgow in 1974. I applied.

Social Activities: 1965-1974.

I had many girlfriends and was friendly with many girls. My relationship with girlfriends was short because I quickly realised I was not in love. My friendship with certain girls lasted a lifetime e.g., Rosemary Brown, Dorothy Fleming, Mary Hunter. My best friend of course was Norrie Wright and we wine and dined regularly over the years at the Shandon Buttery, where the food was famously good and the Bar Maid had a fantastic figure. Before Christine, I also tried to impress females at the Buttery. I became well known there. The owner thought I was a Doctor which caused some confusion on occasions; he assumed my supply of females was from hospitals. I was also very friendly with Hugh Pirie and George Crichton (**XI:1 Glasgow 1962-1963**) and from 1965, on Friday nights frequented The Black Bull and later The Cross Keys in Milngavie, sometimes to the 10 o'clock closing, much to Myrtle Pirie's wrath. We also used Esquire House at Anniesland Cross, often for lunch. In the late 60s George Crichton got his PhD and was appointed Director of the Animal Health Trust Small Animal Research Centre. I visited him regularly. He did not enjoy it and went back into General Practice. Sadly, he died prematurely. He was a great man and a great friend. He had a policy of always leaving his car keys in the ignition. Hence in Glasgow his car was always being stolen. He regularly borrowed mine. Once his stolen car was recovered in Arrochar. George borrowed my car, and with Hugh Pirie went to collect his. Once collected, George, a great *Bon Viveur*, decided to have lunch at Arrochar Hotel, leaving the keys in his car of course. After an excellent lunch they emerge to find his car gone?

Over this period I had many cars, always new. On my return from Kenya, I bought a MG 1100 which I kept for 11 months then I changed my car at regular intervals all at McHarg Rennie and Lindsay, across the road from St Andrews Halls. After 11 months of my MG 1100, I bought a White Triumph Spitfire Sports Car (Ertha Kitt). In 1968, I changed it for a blue Triumph Herald 13/60 convertible (2 doors, 4 seats), within a year to a blue 2000 litre, 6 cylinder,

Triumph Vitesse convertible-it was really fast- then in March 1970, I traded it in 1971 for a Red One (Y66 882J), one of the last made-it became iconic. In 1972, I made a mistake of buying a newly launched Triumph Dolomite saloon in orange (I got a great trade price for the Vitesse)(**XVIII: Our Cars**).

I became close friends with Rosie's Mum and Dad and with Dorothy Fleming's family. I regularly went to Mary and Jock Fleming's in Dalmuir for dinner on a Monday evening-Jock was a local Doctor and GP for Singer Sewing Machines, the Famous Company in Clydebank. I did not have to worry about drink driving, as Jock was also the local Police Doctor. They were both Fanatical Golfers and Jock had been Club Captain at Buchanan Castle and had also represented Scotland in Diving at the Commonwealth Games. They were part of the Millport Mafia with a flat on the front and also a house. I was a regular visitor and infamous as the 'Fool' whose brand new Triumph Dolomite broke down half on half off the Millport Ferry on a Fair Friday Night causing a significant delay. I rented a house in Millport for Mum and Dad and The Family for the month of July in 1973 and 74. In 1973, I nearly bought a large family flat in Millport. The Family included Evelyn who had married Ian Thomson in 1967 (I paid for the Wedding). In 1972, Ian, a lawyer, was Town Clerk of Cumbernauld and I was invited to be a judge in the Miss Cumbernauld Beauty Contest. Sally Logan and Jimmy MacGregor provided the entertainment. I took a former Miss Scotland along. Evelyn and Ian had two boys Niall and Kirk on whom I spent a fortune, Sandra who got married to Alan May (a Dentist) in 1975, and Lesley who married Kerr Wright (both Dentists) in 1981. I paid for all the Weddings. I drove Les to School most mornings and used to take her out for Dinner when I did not have a partner; this way she got to know the Vet School well. Later, many became patients in The Wright's Dental Practice in Scotsoun. I bought a brand new Flat, 2 bedrooms, 2 up and with a garage, in Ladywood, Milngavie. I think I paid £12-13000. Mum and Dad moved in in 1975.

Towards the end of 1974, I visited London regularly, including Danae Wilkins' new house in Dulwich with Ian McIntyre where we helped with the furniture and decorating. He took us to several famous Restaurants.

When Christine and I came together, I knew that it was for always. In late 1974, Christine and I wined and dined regularly most memorably at The Fountain (ex staff of the iconic Malmaison at the Central Station which had closed) near St Georges Cross, on *Coquilles St Jacques* and *Veuve Clicquot*.

PICTURE STORY Glasgow 1965-74



1970 The University My DVM Graduation: Dad, Niall, Me and Mum.



1970 New York: Me and Jimmy Armour visiting Merk Sharp Dohme



1971 Dunure near Ayr: Evelyn, Sandra, Lesley and Me with my Brand New Triumph Vitesse.



1973 Esquire House: Strategy Meeting- Me, George Urquhart, Jimmy Armour



1974 Pathology Forward Line: Me, Lindsay, Bill, Hugh, Norrie, Hal, Roger



Pathology Seminar Bill, Os, Me, Lindsay, Angus, Hugh

4. Geneva

1975: My Life and Career: a Watershed Year (Picture Story p.57)

My Sabbatical Year. This was my life changing year. Christine was by my side. In January 1975, I was approached by Jim Henson, the newly appointed Director General of the recently established International Laboratory for Research on Animal Diseases (ILRAD), whom I had met in Nairobi in September 1974, and by John Pino of The Rockefeller Foundation. I was offered the first Senior Scientist post at ILRAD. It was an amazing challenge and I was appointed in May 1975. I withdrew my application for the Chair in Veterinary Anatomy at Glasgow. During the rest of my time in Geneva, I was involved in head hunting world class Scientists on behalf of ILRAD.

In January, I flew to New York with Ian McIntyre to a Strategy Meeting with John McKelvey JrIII and John Pino, of The Rockefeller Foundation, on ILRAD and The Gambia/Trypanosomiasis Initiative, at the magnificent Rockefeller Centre, lunching at The Rainbow Room on the top floor, starting off with Dry Martinis. We travelled by train via The Grand Central Station to John McKelvey's home in upstate New York. He had lots of Maple Trees producing Maple Syrup. We also visited Barry Bloom at the Albert Einstein College of Medicine-he had agreed to act as a referee for the Anatomy Chair-I had met him at the WHO Chagas Meeting in Mexico City in 1973 (**cf. earlier**)-then Elvin Kabat (one of the World's most Eminent Immunologists) whom I had met at Bellagio in 1972, Dickson Despommier, the famous Parasitologist, both at Columbia University, and Willam Trager, the renowned Malariologist at Rockefeller University, all in New York. On my return, Christine and I, with Ian and Danae went to The London Wimbledon Theatre to see Marlene Dietrich, and went round to the back door for an autograph. Early February, I travelled to Geneva via Giesen in Germany where I visited the Vet School. There I had dinner with Lawson Soulsby who was doing a short Sabbatical and Horst Zahner. I also gave a talk on fascioliasis.

My sabbatical was in the WHO Immunology Laboratory at the Hopital Cantonal, University of Geneva. Paul-Henri Lambert, an eminent Immunologist, was Head of the Laboratory. I was funded by Wellcome Trust (Visiting Fellow+Travel Grant), Glasgow University, University of Geneva (Visiting Professor), and ILRAD-all very rewarding. At one point, I was receiving four salaries, all legal; we used the 'profits' to buy an air-conditioned Volvo for Nairobi. I bought Christine a gold Baum Mercier Watch etc. I had the support of two top class technicians Heidi Gerber and Margarit Knopfel who later visited The Gambia. My

research involved the *Trypanosoma brucei brucei* mouse model, demonstrating the immune complex nature of the disease process, and identifying haemolytic toxins generated by the parasite.

I arrived in Geneva from Giesen on the 9th February and Christine joined me in March. We stayed in a fantastic top floor (5 up) flat found by the Department in 21 Rue de Glasse de Rive up above The Pussy Cat Club, looking out on the left to The Russian Church in the Old Town, and on the right to Lake Geneva (Leman). It was within walking distance of the Lab. Public Transport, buses and trams even to the Airport, was so good that I decided not to buy a car. The first weekend I was there the Department went skiing at the St Bernards Pass (leading to Italy)-there were no nursery slopes for me, but I enjoyed the raclette and the singing. I was the star. I became very friendly with several of the staff, including, Urs Nydecker a Swiss Medic working on C1q, Shoso Uzui from Japan and Jean Corman a Visiting Scientist from Toulouse with his beautiful girlfriend. He showed me the best café/restaurants in Geneva, particularly in the Old Town and in the nearby French District. As a result, I did not have to eat at home until Christine arrived in March. For the rest of the year we lunched and dined at fabulous cafes and restaurants in the Old Town, in the French District, near the Station and at the Airport, where during the summer there was a different French Michelin Star Chef every fortnight, usually from Lyon. My favourite was Frogs Legs, and Steak and Pomme Fritte. I had a go at learning French and took private lessons from a very colourful lady. I worked hard but everyone I met and worked with spoke perfect English, hence little progress. I tried again while at ILRAD but failed again despite trying my best-just no talent.

We had many visitors, including Evelyn and Ian with Niall and Kirk. Along with Margrit and Heidi, we visited Interlaken and Grindewald and travelled by rail up to the magnificent Jungfrau (13642 ft) overlooking the Bernese Oberland. Lindsay Mackey, Betty Blake and Norrie Wright etc., all stayed at our flat at some point. We travelled widely through Switzerland, to Lausanne (Jack Doyle at the WHO Training Centre), Gstaad with Urs Nydecker and wife, an air hostess, where we played Yahtzee, and visited the iconic Palace Hotel of James Bond fame, Basle to Georges Roelants at the Institute of Immunology, the Bears of Berne and had lunch with Heidi Gerber's parents, Lucerne, and to Zurich.

In May, I also visited the Glasgow/RockefellerTrypanotolerance Project in The Gambia, flying down and back, via Dakar in Senegal. Keith Murray and Family and Derek Clifford and Family were now there permanently, having arrived in September 1974. Unfortunately, Keith and Derek had fallen out, basically due to their wives, and it was a problem we never quite resolved. They were based at The MRC Research Labs in staff bungalows and in The Thomson Research Lab.

Maggie Wallace (what a Personality and what a Figure) from Drumchapel provided technical support alongside Joseph Faye who with Bakary Sangang was seconded from the Government Vet Labs at Abuko. We also had roofed open air post-mortem facilities at the MRC and, as with Jimmy Murphy, I acted as the local butcher when we started our experimental work in 1976, sharing beef with the staff and with the vultures. We also had pastures for our NDama and Zebu cattle at the MRC.

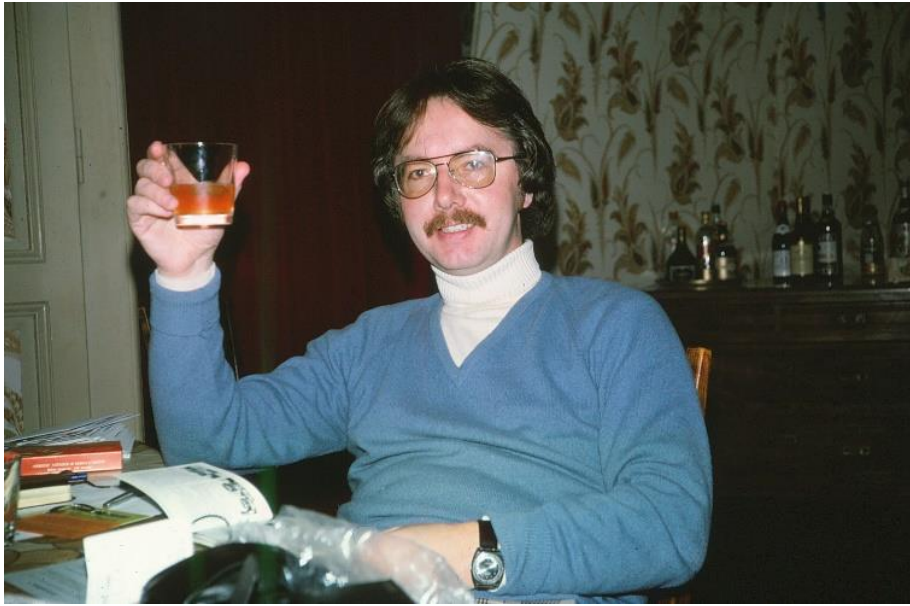
In May we gained entry to the flat I had bought in Ladywood, Milngavie, and Mum, Dad and Lesley moved in, leaving Nitshill after 25 years. Mary Hunter confirmed my membership of The Chieftain Club (British Caledonian Airlines) and the Executive Club (British Airways) which I used for the next 20 years. Christine and I returned to Glasgow for Sandra's marriage to Alan May in the summer. Once I flew to Glasgow via London, there and back in a day, to collect slides for a seminar I gave at WHO Lausanne. We had a holiday in Malaga/Fuengirola with Danae and Andrew Wilkins with Tom and Susannah, initially staying in a villa in Malaga owned by their family; I had stayed there the previous year. We then hotelled in Fuengirola. Christine tried in vain to teach me to swim. I just got sun burnt.

In September, I attended a major international ILRAD strategy meeting on trypanosomiasis and East Coast Fever at the Rockefeller Villa Serbelloni, Bellagio, Lake Como, Italy. Jim Henson was there as was Ian McIntyre, Bill Jarrett, George Urquhart and several eminent international scientists (**cf., p.58**). I also met Sir Peter Medawar (Nobel Prize) and Tony Allison (**XI:5 ILRAD**) on a visit to Northwick Park Medical Research Institute, UK, with Ian McIntyre on my road to ILRAD.

Christine and I were asked to organise and find a suitable location in or around Geneva for the first gathering of ILRAD Staff. We visited several venues, including The Chateau de Coudree the second oldest Chateau in France just across the border. We decided on the iconic La Reserve Hotel close by Geneva (it was used regularly by The Shah of Persia). The meeting was held in October. We dreamed the Dream. The Venue was amazing, and Jim Henson and John Pino had some problems paying the bill. Some of the new staff, eg., Luciana Rovis a vibrant Italian Biochemist (and protégé of Elvin Kabat), whom I had met in New York at Columbia University, visited our flat. She later acted as Katie's Godmother in Nairobi.

We held a major Farewell Party at our flat in early December for the Department. We had Smoked Salmon and Curry and Dry Martinis. Our Land Lady who was tea total thought the Dry Martinis were great.

PICTURE STORY Switzerland 1975



1975 Geneva Our Flat 21 Rue de Glasse de Rive



1975 Christine, Urs Nydekker *et al* Friends from The Lab



1975 Russian Church: View from our Flat



**1975 Villa Serbelloni, Bellagio, Rockefeller Foundation Study and Conference Centre
ITALY**

Immunity to Blood Parasites in Animals and Man

Back Left to Right

Cathy Love,

Barry Bloom,

Bill Callow,

George Urquhart,

Louis Miller,

Howard Goodwin,

George MacKaness,

Antonia Teixeira,

K.N. Brown,

Bill Hanson,

Miorag Ristic,

Matt Cunningham,

Jack Doyle,

Max Murray,

John McKelvey Jnr., **George**

Betty Blake.

Front Left to Right

Russell Lumsden,

Sydney Cohen,

Jim Henson,

Elvin Kabat,

John Pino,

Ruth Nussenzweig,

Ian McIntyre,

Bill Jarrett.

RED---GLASGOW VET SCHOOL BLUE---ILRAD/GLASGOW GREEN---FAO/GLASGOW



1975 Villa Serbelloni, Lake Como



1975 Pops, Christine, Fuengirola, Spain



1975 Malaga: Christine, Tom, Andrew, Susannah, Danae Wilkins

5. Kenya 1975-1985 (Picture Story p.71)(XXI:3.2 Africa)

International Laboratory for Research on Animal Diseases (ILRAD)

Nairobi, Kenya

Christine and I travelled to Nairobi on the 13th of January 1976. Tony Allison was on the flight, an accident waiting to happen (**cf., later**). The next 10 years were a roller coaster. A white air conditioned Volvo saloon awaited us, the first of its type in Kenya. We bought it for £3400 directly from Sweden and sold it 10 years later for £5000. We were married on 8th September 1976 in the Registrar's Office in Nairobi. Ian McIntyre gave Christine away and Paul Sayer was my Best Man. We had a reception at our House at Kyuna. Huge Prawns and Wonderful Avocados prepared by Christine, loads of Champagne. The Prestons, the Sayers, the Morrisons and Christine Quirk were there. Later we went to a Party hosted in our honour by the Hensons in Karen.

ILRAD was amazing but an extremely tough appointment. We lived a wonderful social experience.

Background Story: Seeds of ILRAD were sown by our experience in Nairobi Vet School, germinated in 'Blue Sky' discussions in Glasgow Vet School over the 1960s often along the banks of the River Kelvin at Garscube, involving Ian McIntyre, Bill Jarrett and George Urquhart with me "carrying the bags". The result was Ian McIntyre and the Glasgow Team submitted another of their famous concept notes to the Rockefeller Foundation, New York in 1969, and a concept meeting was held in 1972 at the Rockefeller Villa Serbelloni, Lake Como (**cf., p.44, 61**), then New York. This visionary note was to have a major impact on research in Africa and Glasgow over the next 40 years, including, the establishment of two major research institutes, ILRAD and The International Trypanotolerance Centre (ITC) in The Gambia. At the same time, in Glasgow, a significant research commitment to tropical disease, in particular African Trypanosomiasis in both animals and man, evolved to the present time.

The philosophy of the concept note was that an international research effort based in cutting edge research facilities and housing world class researchers was needed to tackle the major parasitic diseases of domestic livestock¹ that were holding captive vast areas of the most productive land in Africa. One of these Research

¹During this time significant advances were already taking place in the major diseases of domestic livestock, including, rinderpest(Walter Plowright) and F&M disease(Bill Martin).

Institutes should be based in East Africa where there was already an infrastructure of Parastatal Organisations, including the East African Veterinary Research Organisation (EAVRO) and the East African Trypanosomiasis Research Organisation (EATRO).

The institute should be staffed by vets and basic scientists. There would be a Glasgow theme of a multidisciplinary structure functioning in an interdisciplinary fashion. The key was that these researchers would have direct access to the disease in the field. At the same time, they would have the budget to involve researchers and institutes throughout the world. The Centre would have a Rockefeller-like Post-Doctoral Programme with a long term strategy of training scientists, importantly to include Africans.

As described earlier, Think-tank meetings were held, mainly at the Rockefeller Conference Centre at the Villa Serbelloni, Bellagio, Lake Como from the early 1970s, the first in 1972, to which I was invited. In 1973, it was agreed that an Institute called the International Laboratory for Research on Animal Diseases (**ILRAD XXI:3.2.1**) should be established in Nairobi. The main objectives were to develop effective control measures/novel vaccines for livestock diseases that seriously limited world food production, focusing in the first instance on tsetse-transmitted African trypanosomiasis and tick-borne diseases, particularly, East Coast Fever, a virulent form of theileriosis.

ILRAD became one part of a multi-million,dollar global agricultural research centre network sponsored by the Consultative Group on International Agricultural Research (CGIAR), a concept conceived by the Rockefeller Foundation in 1968. CGIAR headquarters are located in the World Bank, Washington DC.

It was widely expected that Ian McIntyre or Bill Jarrett would be appointed Director General. However, McIntyre was heavily committed to another major initiative in The Gambia which led to establishment of the International Trypanotolerance Centre, West Africa (**ITC p.99**), while Bill Jarrett also had other irons in the fire in the Virology/Cancer research field. Professor Jim Henson of Washington State University Veterinary College was appointed in 1974, replacing Elvio Sadun, an eminent US parasitologist, who unfortunately had died soon after his appointment in 1973. As recalled earlier, I had met Jim Henson in Nairobi in September 1974.

Starting in Geneva, I played a major role in identifying top class scientists from throughout the world. I remember at least 21 different nationalities. They, included several from Glasgow including, Ivan Morrison and Jack Doyle, who

later became Deputy Director General. Through many shared research grants and shared post-graduates, close research links were maintained with Glasgow. Another example of our collaboration was seen when Ian McIntyre (Glasgow) with the support of Danae Wilkins (**cf., p.47**), and myself (ILRAD) were invited to run a 'Leadership Training Seminar' on Tsetse – Borne Trypanomiasis initiated by FAO/OAU/WHO, Nairobi, Kenya: 5th to 23rd September, 1977 (**XXI:3.2.5**). Christine played an outstanding role in organising and managing this massive seminar, including hosting a reception at our house in Kyuna. The course lasted 3 weeks and had 69 participants (Doctors, Vets, Entomologists) from 25 African countries (Francophone, Anglophone and Portuguese). An array of eminent instructors, including David Molyneux and Peter DeRaadt of WHO, were involved. "Nothing of this magnitude had ever been organised before", according to WHO (**p.77**).

In April 1978, a magnificent and unique state-of-the-art Research Institute at Kabete, 7 miles north of Nairobi, was officially opened by Daniel Arap Moi, Vice President and subsequently President of Kenya (**XXI:3.2.2 Africa ILRAD**). Originally, Ian McIntyre and myself conceived a wonderful revolutionary design like a beehive with a central core surrounded by pods, housing all the key disciplines from the gene to the sick animal, linking to the central core, to ensure constant interdisciplinary interaction and thinking, an idea that is only now taking root in Research Centre Architecture in the 21st Century. The real ILRAD was built on a beautiful Estate looking out to the iconic Ngong Hills, of Karen Blixen fame. Georges Roelants and I edited a book (**XIII:2.22**) of the International Seminar which was held during the opening, involving renowned speakers, including, Bill Jarrett, Tony Davis (Chester Beatty), Elvin Kabat (Columbia University, New York) and Martin Raft (University College London). ILRAD had major laboratories in Biochemistry, Immunology, Electron Microscopy, Tissue Culture, Parasitology and Pathology. This was backed up by a large post-mortem facility, under myself, a Tsetse Laboratory (Deen Moloo was in charge), a Tick Laboratory, Laboratory Animal Facilities, and extensive paddocks and housing for cattle, sheep and goats. A 12000 acre Ranch was purchased at Athi River on the Mombasa Road, next to a Ranch owned by the Wilson Family (**XI:3 Kilifi Plantations, 1974**). The research facilities were backed by staff housing, a great restaurant and bar, managed by Mike Craig, a local entrepreneur, swimming pool and tennis courts.

The first DG did an excellent job but did not quite provide the leadership of a McIntyre or the research prowess of a Jarrett. Following the official opening in April 1978, Jim Henson retired and I became Acting Director for 6 months. I really enjoyed the experience-I was provided with a Range Rover-it was Fantastic!!! I applied for the job, but an internal appointment was considered inappropriate at this fledging stage. Consequently, AC Allison, the eminent

immunologist was appointed. I was satisfied and supported the decision. Unfortunately, Allison was a disaster with severe social and mental interactive problems and had to be sacked in 1980. This was by far the worst period of my professional life (cf. **XXI:3.2.6**). One very positive experience of 1980 was that via Alistair Swanson, the local May and Baker rep, whom I knew through their production of the trypanocidal prophylactic drug Samorin, I met James McAinsh, Managing Director of May and Baker, with his financial adviser the enigmatic David Niven (he was also a Film Producer), for lunch at the Norfolk Hotel. This resulted in a social and professional relationship that lasted a lifetime (**XIX:4 Mkwaja, Muhaka, XI:8.3 Home of Rest for Horses, Weipers Centre**).

Ross Gray became DG with Jack Doyle as his assistant. Ross was a good man and a caring boss but lacked the vision and leadership qualities for a new world strategy to tackle the enormity of the Problem. As a result, in my opinion ILRAD to some extent lost its dream. While stimulating new research fervour and carrying out world class research, it failed to create a focused catalytic centre for an international integrated scientific network to maximise the possibilities of finding new problem solving solutions. By 1985 when I left, ILRAD was diluting its efforts into international economics rather than focussing on research to find new approaches for treating and or preventing its mandated diseases, and leaving the economics to others.

Nevertheless, between 1975 and 1990 ILRAD grew up to be one of the leading animal disease research laboratories in the world achieving major advances in both African trypanosomiasis and East Coast Fever (**XII. Research Highlights**). I like to think that I was one of the Founding Fathers with McIntyre and Jarrett and Urquhart, John McKelvey and John Pino of Rockefeller.

At ILRAD, I was Head of Pathology and Epidemiology, a Member of the Strategy Team, and responsible for links to Government and other International and National Agencies and Centres. Thus, I got to know well Ismael Murithi, Chief Veterinary Officer, Sam Chema, Head of the Veterinary Laboratories at Kabete, Adriel Ngogu, Director of the East African Trypanosomiasis Research Organization (EATRO, Tororo, Uganda) and later of the Kenya Trypanosomiasis Research Institute (KETRI) at Muguga-we both served on the WHO TDR Trypanosomiasis Committees in Geneva (**X:1 Consultancies and Major Committees**) and became great friends and colleagues, Tom Odhiambo Director General of the International Centre for Insect Physiology and Ecology (ICIPE) at Chiromo, and I formed a very strong professional and personal friendship with John Trail of ILCA and his two colleagues Yves Wissocq and Guy d'Ieteren in a massive Pan African Epidemiology Programme on Domestic Livestock (cf., later **XI:6, XII:4, XIX:4 ILCA/ILRAD Trypanotolerance Network**).

Lab 6, the Pathology Laboratory, and the Lab for histology were near to the PM room. Ivan Morrison was my chief and close lieutenant. In 1975, he had just finished his PhD under the supervision of my best friend Norrie Wright; Ivan was part of my deal in joining ILRAD-I had employed his wife Sheila Orr as a technician on my first ARC grant in 1973. Other members of The Boy Scouts, as we were known, included, David Emery, from Australia, Robert Paling from Belgium, Cynthia Black *nee* Baldwin (USA, she became a scientific adviser to two American Presidents, George W. Bush and then Barak Obama), numerous visiting scientists, including, Alan Teale, Peter Wells from Edinburgh, Bruno Goddeeris (a Belgian), Ron Dwinger from Holland, Douglas Whitelaw and Andrew Peregrine from Glasgow, Jack Moulton, Professor of Pathology from the Vet School in Davis, California, and the wonderful Charles Davis, the Professor of Medicine and Pathology at San Diego Medical Centre, University of Southern California (on a Year's Sabbatical), Sydney 'Sea Lion' Cohen of Malaria fame from Guys Hospital, London, Bede Morris the eminent bovine immunologist from the John Curtin, Australia who sent us David Emery. In 1978, as Acting DG, my first Consultant was George Gettinby, a World Class Statistician (**cf., later**) whom I got to know through Jimmy Armour-he was sensational and we formed a life long professional and personal relationship. Disasterously, he died suddenly in 2014. I also invited John Roberts, Glasgow Vet School's Clerk of Faculty as a possible senior administrator at ILRAD but it did not work out.

I had a fantastic team of Research Associates-Jim Paris, Parasitology from EATRO, Uganda, Chris Hinson from Chester Beatty/Tony Davies, Jed Lamb from the Kenya Veterinary Research Labs at Kabete (he worked for John Preston), Neil MacHugh, and Douglas Bovell and Christine Quirk both histologists from Glasgow Vet School. Over the years we had several post-graduate students, including, Joseph Monirei, a Kenyan, and George Akol from Uganda and Ron Dwinger from The Netherlands both graduating through Utrecht University in The Netherlands (**p.259**). We had a great team of local technicians from Kenya and Uganda, including, Tom Tenywa, Francis McOdimba who Jim Paris had employed as a day labourer at the ILRAD gate-he went on to do a Masters Degree in Canada. A major problem I experienced in 1979 was with a Kenyan Post-Doc Rachel Masake who accused me of racism. Her accusation appeared to have the backing of our DG Tony Allison. With fantastic support and strategic advice from Tony Davies, Sydney Cohen and Charles Davis who considered Allison to be clinically crazy, using Tony Davies's **Strategy For Liars 'as we discussed and agreed'** (**XX1:3.2.6**) in my post meeting memo response on the accusation to Allison who was a total liar, the matter was dropped. He wanted to sack me. I had strong backing from senior Kenyans, Ismael Murithi and Sam Chema, and John Pino of the Rockefeller Foundation.

The ILRAD scientists I remember and collaborated with, included, Sam Black (Immunology, Ulster and USA), Dennis Grab (Molecular Biologist, Rockefeller, New York, and later The Johns Hopkins in Baltimore, USA), SK Moloo (Tsetse, Kenya), Luciana Rovis (Biochemist, Italy, Columbia University, New York), Georges Roelants (Immunologist, Belgium, and Basle Institute of Immunology), Dick Williams (Molecular Biologist, USA), Stuart Shapiro (Biochemist, New York USA), Torbin Jordt (Vet-Clinician, Embryo Transfer, Denmark), Hiro Hirumi (Japan) and Wally Fish (USA)(both Parasite Tissue Culture), and also Onesmo Ole Moi Yoi (Molecular Biologist-Maasai, Kenyan, Harvard Medic), Don Fawcett (Electron Microscopist, Harvard), and Paul Englund (Molecular Biologist, Johns Hopkins, Baltimore), as well as Keith Banks and Travis McGuire, both Vet Immunologists from Washington State University Vet School (Jim Henson's men).

In Lab 6, Major Advances were achieved in African trypanosomiasis in the understanding of pathogenesis/anaemia, immunology, diagnosis and genetic resistance, while in ECF the kinetics of the replication of *Theileria parva*, and the importance of cell mediated immunity and genetically restricted cytotoxic killing were defined (**XII:2.2 Research Highlights**). A massive investment in Genetic Resistance/Trypanotolerance research was made in 1983. At the cost of some \$200,000, Embryo Transfer was carried out from NDama in The Gambia to surrogate Boran mothers in Kenya. This yielded 10 Ndama calves in 1984: the first 5 born were males, the first called Max and he developed into a fine bull, and the rest females. This programme was led by Torbin Jordt. This enabled studies to be carried out in animals with no previous exposure, a possible concern of our earlier work in West Africa. Thus, it was confirmed that Ndama did possess innate resistance to *Trypanosoma congolense* when compared to Boran, superior immune responsiveness, and developed acquired resistance to other serodemes.

Also in Lab 6, the field programme was Key-Epidemiology. In 1977, I had met John Trail and we immediately formed a complementary rapport in epidemiology and in the philosophy of measurement as per Lord Kelvin and Bill Jarrett and George Gettinby. The consequence was the formation of the ILCA/ILRAD Trypanotolerance Network, in collaboration with The International Trypanotolerance Centre (ITC) and Glasgow. Some of the largest field studies ever performed on drug control and trypanotolerant livestock were carried out, encompassing 13 countries in Sub-Saharan Africa. The analysis of large composite databases collected over many years demonstrated the economic efficacy Drug Control (treatment and or prophylaxis) and established that Trypanolerant Breeds were productive, even in areas where other breeds could not survive because of the tsetse. I was supported by George Gettinby, Professor of Statistics at Strathclyde University and John was backed by Yves Wissocq and later by Guy d'Ieteren, both Belgians (**XII.4 Research Highlights**).

Between 1976 and 1985, I travelled widely to conferences, international committee meetings, consultancies throughout Sub Saharan Africa (OAU/ISCTRC), Europe, in particular Geneva (WHO, at least once per year), Rome (FAO), and Bellagio (Rockefeller Foundation) in 1975, 1978 (I watched the World Cup Final in Argentina- Argentina v Holland, in the Café de Sport) and in February 1981 helped to create The International Trypanotolerance Centre (XI:6), and Washington (CGIAR). I visited The Gambia almost every year travelling via The UK and usually Glasgow to Mum and Dad-we bought Buchanan St in 1978. In 1976, Christine and I went for 6 weeks to The Gambia, and in 1977 we attended ISCTRC Biannual Conference there where I presented several papers and Christine, as usual played a major role in the organisation. I then went to the WAAVP Meeting in Sydney in July-Christine was pregnant-travelling from Nairobi via London. I was rerouted to London, because of a bad weather delay at Nairobi. I was lucky enough to get a seat on to a Qantas First Class via Bombay, Perth, Melbourne to Sydney. It was fantastic-18 hours of Partying and meeting interesting and wealthy people. I gave 5 papers and met up with the great Alan Waddell again (XI:3 Glasgow, 1970). I returned to Nairobi via Mauritius and Johannesburg (First Class South African Airways(average)/ British Airways).

In 1979, I represented WHO at The Oswaldo Cruz (who discovered *Trypanosoma cruzi*) Centenary Meeting in Rio de Janeiro. I attended the ISCTRC Meetings in Cameroon in 1979, where I had arranged that Leitz, Germany would provide Projection Facilities and Microscope Demonstrations, and in Tanzania in 1981. A highlight year was 1983 when I had two amazing trips to the USA. In April, I had a three week Safari travelling to Kissimee, Orlando, Florida via Glasgow, London and Miami, where I gave two papers at an International Parasitology Meeting: then to Texas A&M at College Station, via Atlanta and Houston (I heard of an attempted Coup in Nairobi but contact with Washington by a Senior Staff Member assured me that everything was OK), then to San Diego, California, to Charles and Shirley Davis. When I landed there was a huge Battle Ship, The New Jersey which had just seen action in the Meditterrean-Lebanon, in the Harbor-San Diego is a major US Naval Base. I gave a Seminar at San Diego Medical Center attended by the Dean Abe Braude and a large number of Naval Medical Officers dressed in whites. The Davis Family held a curry party and we went dancing at the Hotel Del Coronado of "Some Like It Hot" fame. I then flew to Washington State to the Vet School to visit Jim and Jan Henson. There, I also met the infamous Roger Breeze originally from Glasgow. Then to London via Seattle to meet James McAinsh and David Niven (M&B Ltd). An OIE meeting in Paris was the next stop, then to Zurich, then home to Nairobi.

In September, I flew to Las Vegas via Glasgow and London. I had been invited by Abe Braude, President of The Infectious Disease Society of America, and Charles

Davis to give The Guest Lecture. I presented my Story on Trypanotolerance to an audience over 5000 at the Hilton Hotel Conference Center on the same stage where Elvis Presley had frequently performed. I was given the Presidential Suite on the top floor; there was a huge round bed raised above the floor and a matching round mirror in the ceiling. Charles and Shirley took me to a Cabaret at Caesars Palace with his friend the Chief Medical Officer of the US Army and his beautiful aide *de camp*. What an experience!!! Abe Braude sent an amazing letter of praise to the ILRAD DG Ross Gray (**XXI:4.3 Correspondence**). The extent of my travel can be seen from **Chapters X: Consultances/Major Committees and XIII: Publications**.

An important part of every travel programme was to keep Christine in the height of fashion, making purchases at many ports of call.

While ‘The Holy Grail’ of a vaccine against Trypanosomiasis and East Coast Fever is still awaited, ILRAD’s lasting legacy was that it helped to catalyse global action on the world’s great forgotten exotic diseases of animals and man (**XII. Research Highlights**). In 1995, ILRAD merged with ILCA, Ethiopia, to form the International Livestock Research Institute (**ILRI**).

Our Personal Safari: My Wonderful Wife and Family

On the 8th of September, Christine and I were Married in Nairobi. Katie was born on the 12th January 1978, Max was born on the 23rd of March 1979, and Kirsty was born on the 24th January 1983, all in Nairobi. From 1976 to 1980 we rented a lovely villa with a large garden in Kyuna (**p.80**), about 5 miles north of Nairobi in lower Kabete. It belonged to Paul Ngei, a Kikuyu who was a Cabinet Minister for Cooperatives in President Jomo Kenyatta’s Cabinet. In 1980 we moved with the help of Charles Davis *et al* to nearby Loresho Ridge to another beautiful villa with a large garden (**p.92**) where we stayed until we went back to Glasgow in July 1985. Both villas were only 5 minutes by car from ILRAD. From 1976 we employed Jacob and Jenny with their Family as ‘House Boys’, as was the custom in Kenya. They were great and stayed with us until we left Kenya. Our Kids loved them more than us and could speak Swahili before English. Katie started Kabete Kindergarten in 1981. It was owned by Ailsa and Ron Wood with whom we became close friends. In 1978 we bought a yellow Daihatsu at the Nairobi Agriculture Show in Ngong (**p.554**). In Kyuna we had two dogs, Snoopy, a small orphan terrier and Humphrey, a magnificent Rhodesian Ridgeback; in 1980, Snoopy was killed in a dog fight and then Humphrey ran away, then Sheba, a Great Dane arrived. At Loresho, we had two dogs, the magnificent Sheba and a Nairobi Collie Special called Sand’or. We got Sheba from Colin Moon (and wife Karen) who was the Manager of the Jacaranda Hotel in Westlands-Sheba was

terrifying the guests. The Morrisons asked us to look after Sand'or while they were on home leave, but never took him back.

Each year, we travelled home on annual leave for 4-6 weeks in the summer, except for Christmas/New Year in 1980/1981. We usually travelled Club Class British Airways, sometimes First Class and occasionally KLM via Amsterdam where I bought Christine's engagement ring at the Airport. We bought a house for my Mum and Dad in Buchanan St, Milngavie for £28,000 in 1978 and sold it for £212,000 in 2002. We sold the flat in Ladywood for £35000 in 1983, having rented it from 1978 with the help of Rosemary Brown.

We had regular family visits from the start and we went on safari throughout Kenya. Sunday afternoons were to the Nairobi Game Park, or down the 300 mile road to Mombasa via Hunter's Lodge, Mtito Andei, half way down, sometimes turning right into The Tsavo to stay in Kilaguni Lodge and visit Mzima Springs, the water source for Mombasa and a meeting place for Elephants, Hippos, Crocodiles etc etc., then on to Mombasa via Voi. Mombasa is an Island linked to the mainland by a causeway. We would go to Fort Jesus built by the Portuguese in 1593. I had visited the Mombasa Club for a Gin and Water Dinner with Ian McIntyre and Dennis Wilson in September 1974 (**cf., earlier**). Then we would turn North or South, North to Malindi, South to the Sayers Bungalow on the Indian Ocean, or to Diani Reef Hotel. Often, we lunched at the the Tamarind, a wonderful Seafood Restaurant-Giant Crab Claws, at Nyali Bridge looking across to Fort Jesus. We also turned North from Nairobi, most often to Lake Naivasha where we picnicked, lunched and sailed in The Wood's motor boat. We went further north to Lake Nakuru, and also to the luxury camp at Lake Baringo in 1984. We had safaris to the Maasai Mara to Samburu Lodge with Evelyn and Ian, Niall and Kirk when they visited us in 1980 and to the Serengeti. Lesley came in 1976: we went down to Mombasa, and flew up to Lamu in a Four Seater Plane in which Christine did most of the piloting, and cleaning the widescreen to help the pilot to find our destiny through the rain. Lesley was a social Star in Nairobi, especially with the Prestons. Christine's Mum and Dad, Elsa and Ron, came out in 1977 and in 1983/84. My Mum and Dad came in April 1978 and attended the Official Opening of ILRAD which was performed by the then Vice-President of Kenya Daniel Arap Moi. Evelyn and Ian and Niall and Kirk came in the summer of 1980, and Uncle Johnny came over Christmas and New Year 1981/82. When Mum and Dad came in 1978 there was an earthquake-6+ on the richter scale. Dad died in April 1981. I returned home immediately for his funeral, and later in the week I had a major drunken lunch with Ian McIntyre at The Country Club, Strathblane – McIntyre crashed his car on the road home back to Clynder and lost his licence, and I developed a middle ear problem and nearly had to delay my return to Nairobi via Amsterdam. In July, I gave Lesley away and paid for her marriage to Kerr at their Wedding at Glasgow University and reception at the

upmarket Albany Hotel in Bothwell Street. Katie and Jennifer May were bridesmaids and Max was in a kilt. Katie had had a tooth extracted and Max was unwell and I delivered a well received speech with Max in my arms. We drove down to visit Christine and John Preston at Tewin Woods near London. We visited Ted Fisher at his Chalet on Loch Fyne along with Norrie and Irene Wright and Hugh and Myrtle Pirie.

I was caught in an attempted Coup d'etat in The Gambia in late July 1981 with Ian McIntyre. The President was in London for Charles and Diana's Wedding. We were in the Atlantic Hotel, in Banjul, at an African Development Bank Meeting where we negotiated £10M to build the International Trypanotolerance Centre **(p.114-117, XXI:3.3)**. Over 800 people were killed. We were relieved by Special Senegalese Forces and the SAS. I got out by crossing The Gambia River, then a Bus to the British Embassy in Dakar, and flew to Glasgow via Paris and London. I was met at the Airport by Christine, Katie and Max, and by the press, who caught up with us in the car park when Christine locked us out of our hired car. I was a local celebrity and appeared in the Daily Record and Glasgow Herald next morning, a Saturday. It was a frightening experience. Ian flew home later from The Gambia in a Military Aircraft. We missed another attempted Coup in Nairobi in September 1983. Christine insisted that we flew back from Glasgow to Nairobi immediately. There was a curfew for several weeks but it did not curtail our social activities, and Elsa and Ron, visited over Christmas and New Year.

We had a wonderful and busy social life around Nairobi. We dined out at least twice a week at Lavarinis, often with The Prestons in 77/78, and I (ILRAD) always paid in Dry Martinis and Lasagne and at Marinos-both Italian, sometimes with the Prestons, The Tamarind (Crab Claws), the Norfolk, The New Stanley Grill and Night Club-great Cocktails, Nairobi Club, Bobby's Bistro-once I ordered a second Lobster, The Horsemen in Karen, and fantastic Indian and Chinese restaurants. The Casino by Westlands was another haunt, and best of all, in the 80s, The Carnivore out at Wilson Airport for a 4 hour lunch every Sunday, with Katie, Max and Kirsty, looked after by Samson, our waiter. We would start at noon with 3 Dry Martinis and go home around 4 o'clock **(XXI:3.2.8)**.

During my time at ILRAD I was offered several jobs. In 1976, I was contacted about the Chair of Veterinary Pathology in Cambridge: in 1978, I was asked to apply for the Chair in Veterinary Parasitology in Brisbane, Australia: In 1979, I was approached about the Deanship in Davis, California by Professor Jack Moulton who was doing a year's sabbatical in my Lab in 1980. In 1982, I was contacted about the Chair of Veterinary Pathology in Edinburgh, via Bill Jarrett. In 1983, I was interviewed and offered the Chair of Veterinary Pathology at the Royal Veterinary College, London (Cotchin's Chair) but did not accept.

In 1984, I accepted the Chair of Veterinary Medicine at Glasgow. In 1983, by sheer chance I had met Jimmy Armour on a Flight to London from Lyon where I had been visiting with James MacAinsh Rhone Merieux, who now owned May and Baker, regarding the development of Samorin. Jimmy told me that The Chair of Veterinary Medicine was to be advertised-Ian McIntyre had resigned to become the Director General of the International Trypanotolerance Centre in The Gambia. Jimmy told me that Ian Selman the expected Heir to the Throne would definitely not be appointed. The rest is history and I was interviewed in Glasgow in October 1984, and by the time I got back to Mum's in Buchanan St, Milngavie, I received a call from Alwyn Williams, The Principal offering me the job and I started in August 1985.

In March 1985, I went to my annual WHO STRC Meeting in Geneva (which I had been attending annually since 1977), via Glasgow where Grandpa took me to see some possible houses. I also had a meeting with my long time Bank Manager, Mr Seymour, in the Royal Bank of Scotland, Milngavie. He took great care of Mum. He advised me that I should presell, my ILRAD Pension (\$150,000) for sterling, as the current exchange rate was £1 for \$1- it had plunged from \$1.5, thus giving me a £50,000 profit. In April, Christine flew to Glasgow via The Horseman Restaurant in Karen to organise Glasgow High School for the kids and look at houses. By great fortune and accident, and Jane McCann, whose bridesmaid she had been, she found 21 Ledcameroch Road, just next to the School. Jane had the house next door.

In June 1985, we hosted a farewell party at Loresho, starting at noon and going beyond midnight. It was huge with all our friends and colleagues from Kabete Kindergarten and ILRAD etc. We hired the Marquees that had just been used for the wonderful movie 'Out of Africa', based on Karen Blixen's iconic book, starring Meryl Streep and Robert Redford. We have a huge Scrap Book of the Party **(XXI:3.2.7)**. We stayed at ILRAD accommodation for our final few weeks and flew on the 1st of July.

Working at ILRAD as a Senior Scientist and, for a time in 1978, as Director General, was a monumental experience involving contact with the best scientists in the world and taking me into the international politics of disease (Rockefeller Foundation, FAO, UNDP, WHO, World Bank, CGIAR, EC, OAU/IBAR as well as ODA/DFID, USAID etc.,etc. On reflection, it probably took me away from hands on research 5 to 10 years too soon. There was incredible excitement doing this, designing the facilities, planning the Research Strategy, Travel, Big Salary.

PICTURE STORY ILRAD 1975-85



1977 Post-Mortem Room (on the left), Skeleton of Lab 6-My Domain



1978 ILRAD Kabete



1977 The Lords of Africa, Kyuna (MacLennan, McIntyre, Ford)



1978 The Boy Scouts Lab 6



1978 ILRAD: Me, Ivan



1978 Villa Serbelloni (Me 2nd from left standing)



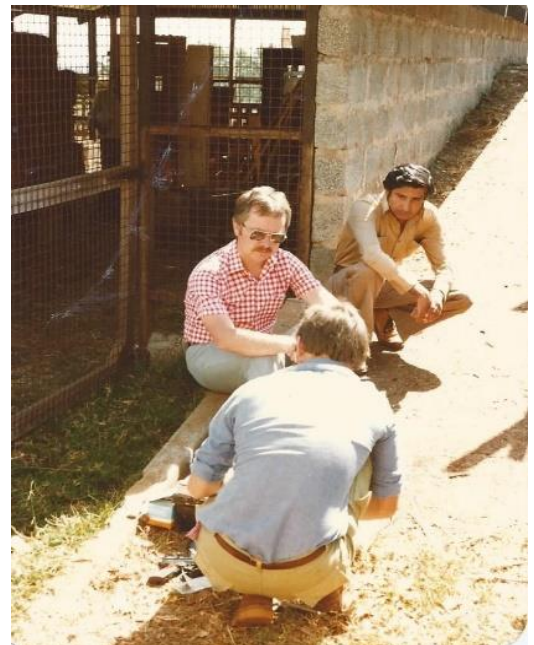
1978 Villa Sebelloni, Lake Como



1980 Kyuna: Charles Davis *et al.* Moving to Loresho Ridge



1980 Me, Young Eland, Kabete



**1980 Me, Douglas W., Deen Moloo,
Kabete Wildlife Labs**



1980 ILRAD Lab 6: Me, Ivan Morrison



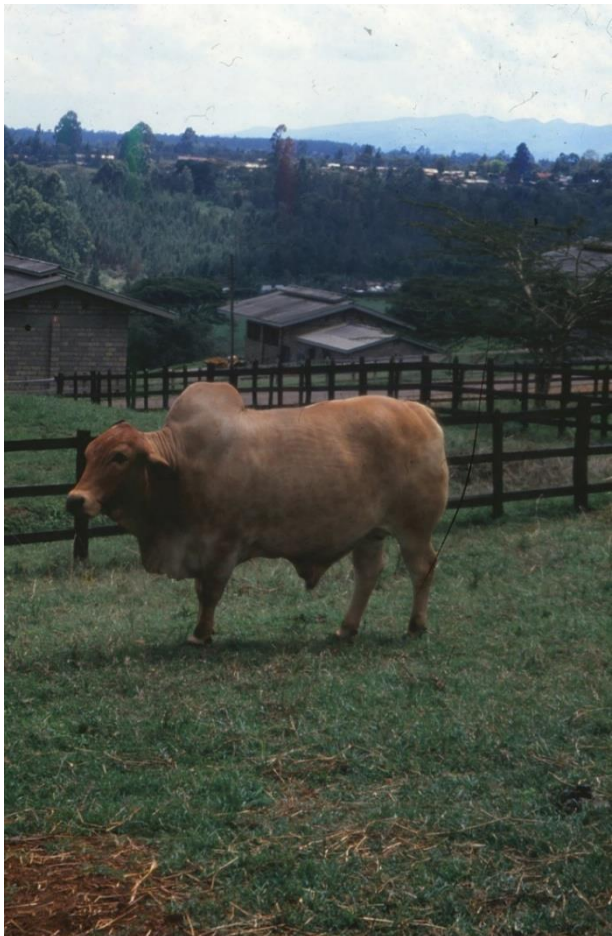
1981 ILRAD Lab 6: Robert McNamara, President of World Bank and Me *et al*



1983 ILRAD Lab 6: Dawda Jawara, President of The Gambia and Me



1985 One year old Ndama Embryos and Me



1986 Boran Bull, ILRAD Ngong Hills



1986 NDama Heifers: Embryo Transfer



1977 Leadership Training Programme, Chiroma: Note Ian McIntyre and Me



1984 The Boy Scouts Lab 6: Team of Pathologists, Immunologists, Geneticists, Epidemiologists etc.(Me 4th from right)

PICTURE STORY Kenya Us 1975-85



1976 September 8th Our Wedding Day



1976 September 8th Our Wedding



1976 Christine, Tsavo Kilaguni Lodge, Kilimanjaro



1976 Christine, Kilimanjaro



1976 Christine, Kyuna Our House



1977 Christine, Kyuna



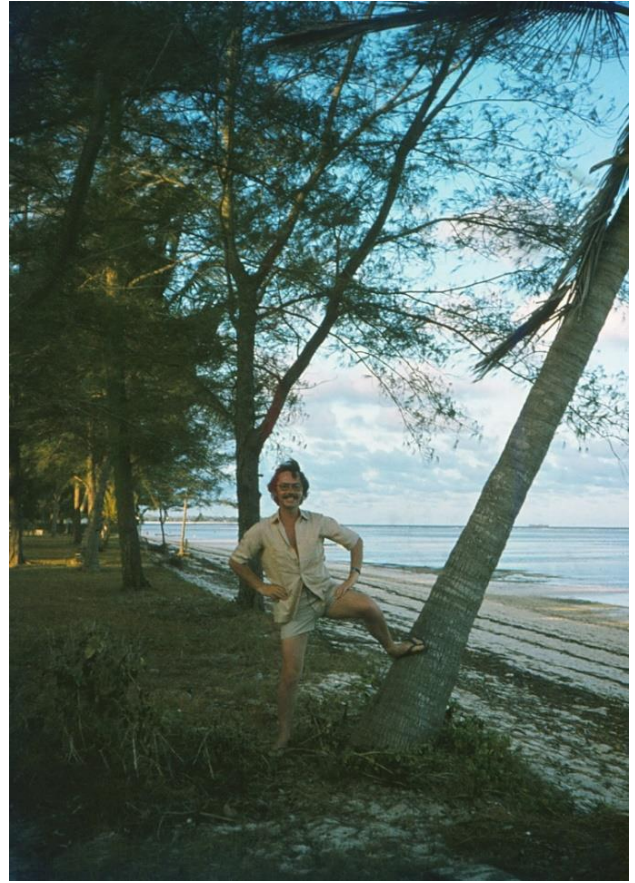
1976 Sayer's Beach Villa, Mombasa



1977 Christine, Mombasa Sayers Beach Villa



1977 Christine, Mombasa



1977 Me, Mombasa



1977 Granny, Grandpa, Christine, Hunter's Lodge



**1977 Bakary Sanyang, Us, Leadership Training Seminar
Party for Delegates at our House in Kyuna**



1977 Jacob, Jenny and Family and Snoopy, Kyuna



1977 Christine and Maggie, Elephants at Mzima Springs

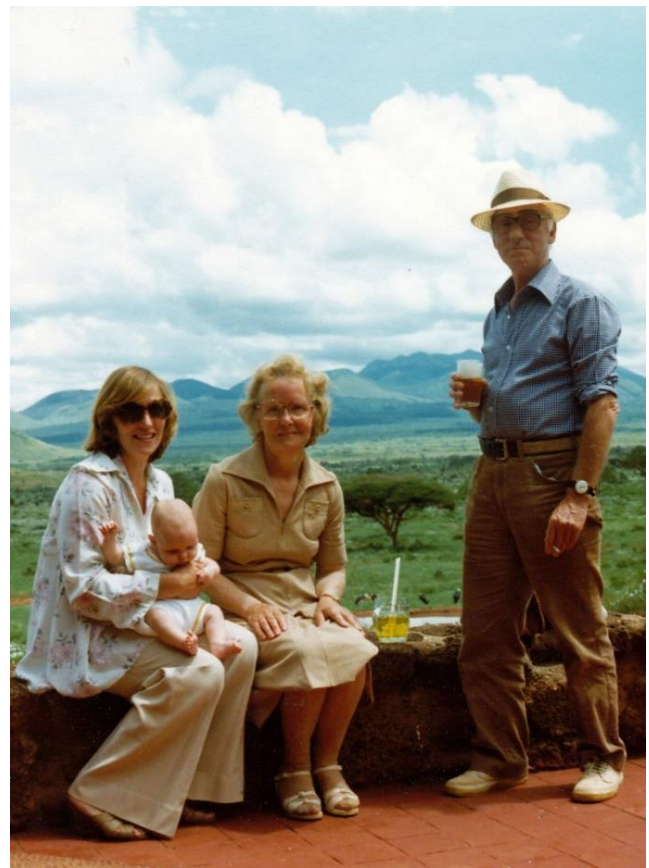


1977 Christine (Pregnant), Humphrey, Snoopy, Kyuna



1978 - Nairobi

1978 Katie and Christine, Outspan



**1978 Katie, Christine, Mum, Dad,
Kilaguni Lodge, Tsavo**



1978 Katie and Christine, Tsavo



1978 Mum and Katie, Kyuna



1978 Mum, Dad, Kyuna Nairobi



1978 Us, Kyuna



1978 Us Kyuna



1979 Max, Katie, Mum and Dad, Kyuna



1979 November, Katie, Kyuna



1980 Katie, Max, Christine, Nanyuki July



1980 Katie, Max and Sheba, Kyuna



1980 Us, The Thomsons, Kyuna



1980 Katie, Max, Christine and Me, Kyuna



1980 Us, Evelyn's-Home Leave



1981 Katie, Sand'or, Loresho



1981 Katie, Nairobi



1981 Max and Katie, Loresho



1981 Lesley and Kerr's Wedding, Us, July Glasgow



1982 Max and Friend, Loresho Ridge



1982 Us, Loresho Ridge



1983 Kirsty, Max, Katie, Sandor, Loresho Ridge



1983 Us, Loresho Ridge



1983 Kirsty, Loresho Ridge



1984 Kirsty, Grandpa, Naivasha



1984 KMK, Granny, Grandpa, Christine, Loresho



1984 The Gettinbys, Us, Loresho



1984 KMK, Christine, The Tamarind, Nyali Bridge Mombasa



1984 Katie, Max, Kirsty, Pops, Naivasha



1984 Lake Baringo



**Snow White and Seven Dwarfs-
Katie, Max, Kabete Kindergarten**



1984 Lake Baringo: Max, Kirsty, Katie and Christine



1984-1985 Kirsty, Loresho



1985 Carnivore: Kirsty, Max, Katie and Samson (LHS)



1985 Katie, Max and Kirsty, Loresho Ridge

6. The Gambia, West Africa 1973-2002 (Picture Story p.102)

(XXI:3.3 Africa)

The International Trypanotolerance Centre (ITC), The Gambia.

As reviewed earlier, the indigenous *Bos taurus* breeds of cattle in West and Central Africa are reputed to possess significant resistance to African trypanosomiasis (termed Trypanotolerance) and to other important endemic diseases related to ticks and helminths. The Ndama, the most common breed of this type, is believed to be derived from the Hamitic Longhorn which was first depicted in cave paintings in north Africa around 5000 BC, the first cattle in Africa.

The preliminary results we achieved in 1973 and 1974 were promising and led by a resident group from Glasgow led by Keith Murray and Derek Clifford going out to The Gambia in September 1974 accompanied by their families and technical support, notably the amazing and statuesque Maggie Wallace from Drumchapel. There was a strong support team of personnel from the Government Vet Labs at Abuko, led by the head Animal Health Officer Bakary Sanyang, a wonderful gentleman from Brikama, plus laboratory technicians, including, Joseph Faye etc. Funding was extended by the Rockefeller Foundation in 1976.

Christine and I returned in 1976, and stayed for several weeks. Christine travelled from Nairobi via Accra, a tough journey while I arrived via an FAO meeting in Rome. Christine developed a modified Indirect Immunofluorescent Antibody Test for detection of trypanosome antibodies which was more sensitive and reliable than all previous approaches. We had a bungalow at the MRC and a hired air-conditioned white Honda Civic. Margit Knopfel and Heidi Gerber came from Geneva for a short Sabbatical. The President visited our Lab at the MRC and bled a cow. Jim Henson (ILRAD, DG) and Jan, his wife, also visited.

Christine and I attended the ISCTRC meeting held in The Gambia in 1977. Christine did an incredible job in helping to run the Conference while the Glasgow/ILRAD team gave a large series of papers. Jim Dargie, a brilliant physiologist from Glasgow Vet School, and later of the IAEA, Vienna, carried out key pharmoerthrokinetic studies on the anaemia in trypanosomiasis in the NDama and Zebu housed at MRC. All this work drew attention to the unique characteristics of the Ndama, namely, disease resistance related to the ability to control parasitaemia and resist anaemia, significant productivity potential, thermoregulation powers similar to wildlife, as well as to other indigenous breeds that possess this characteristic such as the West African Shorthorn cattle,

and the local breeds of sheep (Djallonke) and goats (West African Dwarf), hence providing a potential means of increasing production in the vast tsetse-infested humid and sub humid areas of Sub-Saharan Africa.

Thus, the concept of setting up a Centre of Excellence in Africa to carry out definitive studies on Genetic Resistance evolved. Sir Dawda Jawara, through Ian McIntyre and with sponsorship from the Rockefeller Foundation, organised a conference of eminent scientists, donor agencies and multinational institutes at the Rockefeller Conference Centre, in the Villa Serbelloni at Bellagio, Lake Como in February 1981, to consider a major research effort and exploitation of this remarkable phenomenon. I was part of the strategy group (**cf., p.115**). In July of 81, I was caught in the Attempted Coup (**cf., p.69, 115; XXI:3.3**). An Enabling Act setting up the International Trypanotolerance Centre (ITC) in The Gambia was passed by the Gambian Government in 1982. Funding was provided initially by the Gambian Government, the African Development Bank, Rockefeller Foundation, Britain (ODA/DFID), then European Community through ILRAD/ILCA (I led this component), and later Switzerland and Belgium. Ian McIntyre was appointed first Director General in 1983. Construction of ITC at three sites throughout The Gambia, Kerr Serigne, Keneba and Bansang was opened in 1987. It was widely regarded as one of the best ‘blue prints’ of a Research Field Centre in the World.

ITC helped to focus World attention on the potential of Genetic Resistance as a significant weapon for disease control. Glasgow Vet School was the catalyst and driving force. McIntyre was the first Director General. The eminent immunologist Professor AJS Davies was the Dynamic Chairman of the ITC Council.

The ITC and The Gambia became the centre of a continental programme. There were many players. In The Gambia, in the early days there was the ebullient Dr Wally N’Dow (Director of the Veterinary Department), Bakary Sangang, the master of all trades in the Vet Department and then Dr Bakary Touray, a great gentleman and Deputy Director of ITC. ILRAD (MM) had a considerable input into the immunology of the trait, having the luxury of working on N’Dama introduced from The Gambia to Kenya by Embryo Transfer (**cf., ILRAD**).

As described earlier, the ILCA/ILRAD Trypanotolerance Network (covering 13 African Countries) led by the redoubtable John Trail and myself surveyed massive databases in the study of Productivity and Genetics of Trypanotolerance.

Finally, as usual with Glasgow, George Gettinby (Professor of Mathematics and Statistics, University of Strathclyde) provided constant advice.

The outcome, a truly international one, involving Glasgow Vet School, ILRAD, ILCA, ITC and the Rockefeller Foundation etc., was of major significance, identifying Trypanotolerance as significant alternative/addition for Disease Control in tsetse-infested Africa (**XII. Research Highlights**).

After I returned to Glasgow in 1985, I maintained my love of The Gambia and belief in the pivotal importance of ITC in the battle against African trypanosomiasis. Unfortunately, Ian McIntyre was not speaking to me at this time because I had accepted The Glasgow Chair. However, he could not do without me and forgave me. Thus, along with Tony Davies, now a close friend who had helped me through the horrific days of Tony Allison, I was invited in 1988 to become a Member of The ITC Council, then of the Executive Committee with Tony as Chairman, and then me Chairman of The Research Programme until 1996, over which time I travelled to The Gambia regularly. Ian retired in 1989 in problematic circumstances. I cannot leave The Gambia or elsewhere without saying what a privilege it was to work with Tony Davies. Tony is an amazing man, a brilliant scientist. I like to think that we complemented one another $1+1=3$, whether in The Gambia or with NVN Ltd (**cf., p.294**).

The Gambia experience was quite different from East Africa. The Gambia is the smallest country in Africa. It is a wonderful place, both the land and the people. It was the real basic Sub-Sahara with friendly people 'more the people than the place'. I with Christine made a large number of friends-The Brewers and The Wilkins, Bakary Sangang and Bakary Touray and had a wonderful social and academic experience as described earlier (**Also cf., The Gambia Horse and Donkey Trust XV:4 and XIX:5**).

At the same time, I must recognise Ian McIntyre as an outstanding Clinician and a remarkable Visionary. He should have been made a Lord not only for work in Africa but for his Global Diaspora.

PICTURE STORY The Gambia ITC 1973-1996



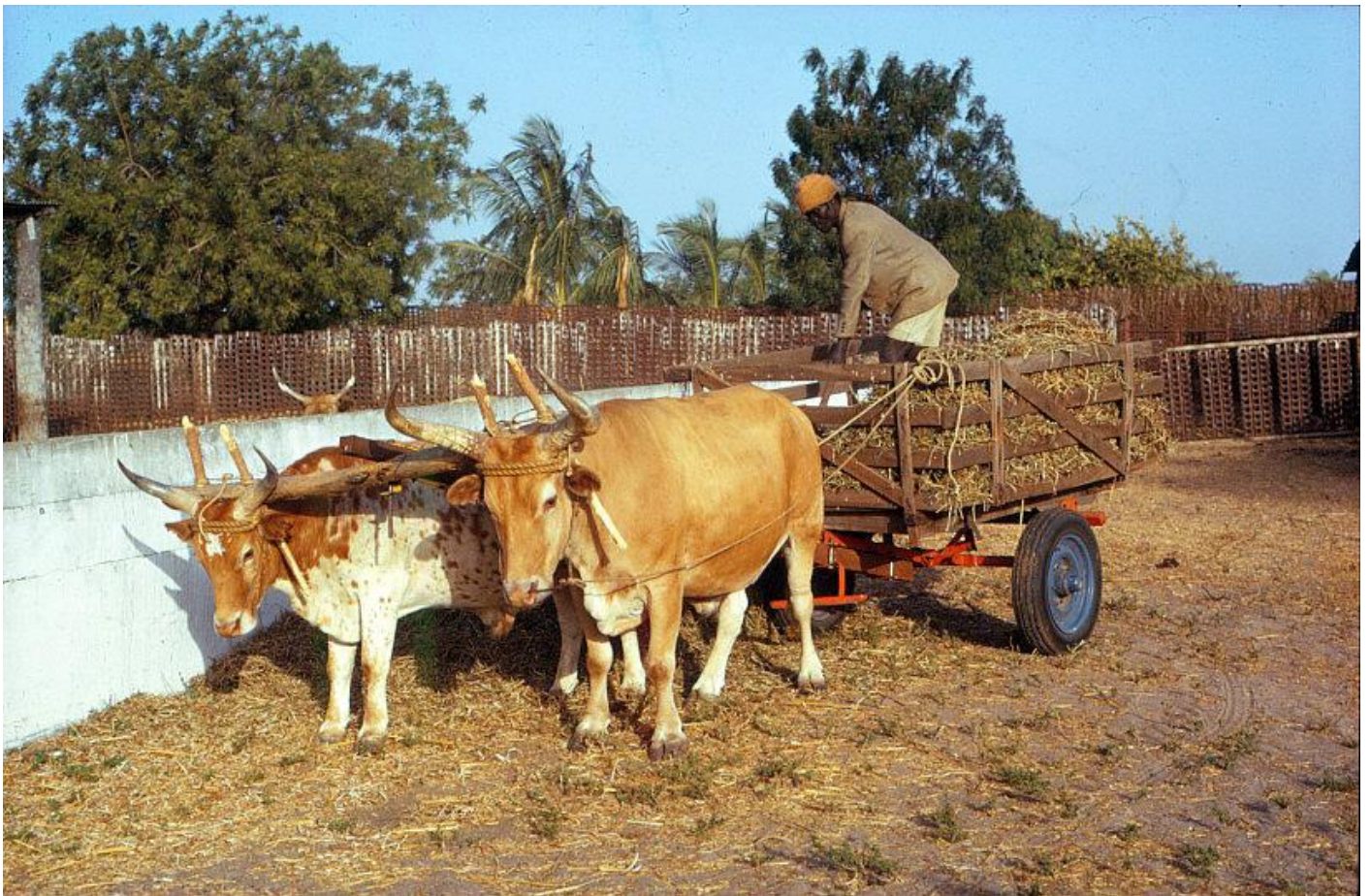
1973 Vet Labs, Abuko with Vultures.



1973 Post-Mortem Room Abuko: Me.



1973 The Ndama (*Bos taurus* Hamitic Longhorn)



1973 Ndama Oxen at Yundum



1973 Herd of NDama at Brikama.



1973 Abuko Nature Reserve



Stella Brewer, William



1973 Abuko Nature Reserve: Me



1973 Keith Murray, Frank Jennings, George Urquhart-Sunwing Hotel Fajara.



1974 MRC Thomson Laboratory, Our Lab, Fajara.



1974 Sir Ian MacGregor, Director of The MRC, Ian McIntyre *et al* at Keneba.



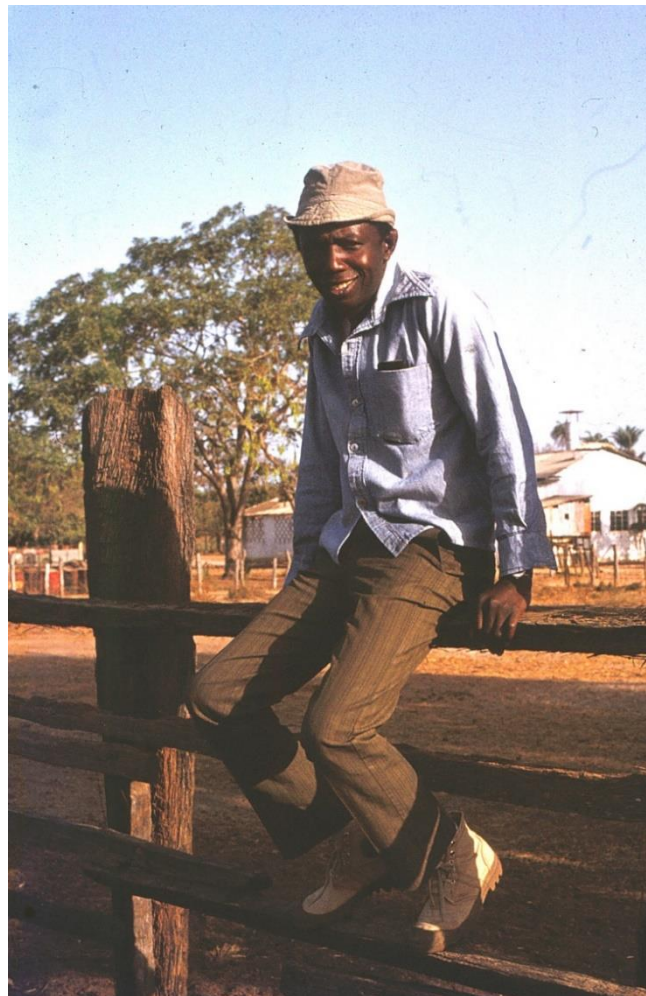
1974 Me, Tom Wilkins at MRC Fajara.



1974 Banjul.



1974 Bleeding at Dawn.



1974 Bakar Sangang, Head Veterinary Assistant.



1974 Me, Keith, Meat Inspection, Midnight, Banjul.



1976 Christine, Bleeding Time.



1976 Christine, Bakary, Big Maggie Wallace, Bleeding complete.



1976 Post Mortem "Room", Christine at MRC Fajara.



1976 Christine, Fajara Hotel



1976 Christine: Our Honda outside our Bungalow at MRC.



1976 President Jawara, Maggie and Christine, Thomson Lab, MRC



1976 Ivan, Christine, Keith, Cruising up The River Gambia



1976 Jan Henson, Maggie Wallace, Jean Murray, Margarit Knopfel, Heidi Gerber and Christine, MRC



1976 The Glasgow, Gambia and ILRAD Teams at Thomson Block MRC Research Laboratories, Fajara.



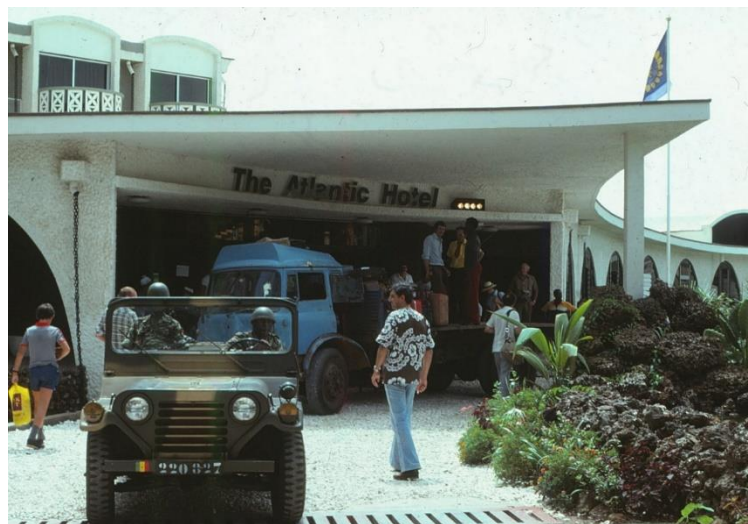
1977 ISCTRC Fajara: Christine, Maggie: behind Joseph Faye, Bakary Sanyang



1980. ITC Planning Meeting Atlantic Hotel The Gambia; President Jawara (Me 5th from left), Ian McIntyre, John McKelvey etc.



1981 February ITC Strategy Meeting (from left John McKelvey, Ian McIntyre, Dawda Jawara, Me-behind Jawara- John Pino), Villa Serbelloni Bellagio



1981 July The Gambia Attempted Coup: Yves Wissocq (I am on the lorry)
Back in Glasgow- Daily Record



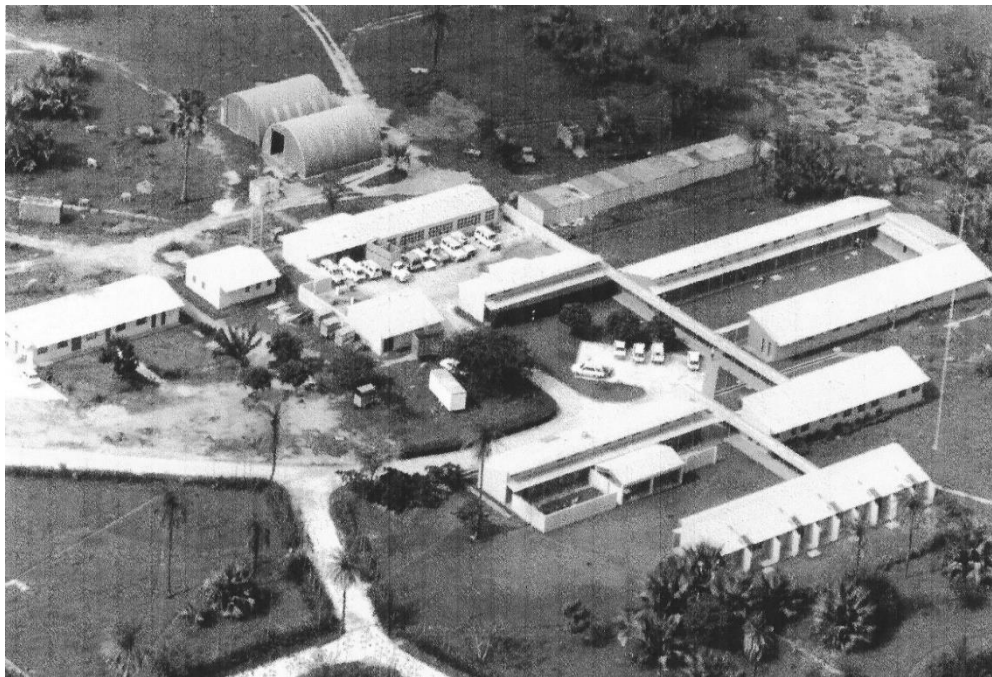
Opening of The International Trypanotolerance Centre (ITC)



1987 Ian McIntyre and John McKelvey Junior III



1989 The Board of The ITC; note Tony Davis, Jack Doyle, President Jawara, Ian McIntyre, Bakary Touray, Jos Mortelmans (I was the Photographer).



1989 International Trypanotolerance Centre Laboratories



1990s Nutrition and Resistance: supplementation with Groundnut Hay.



1990s Ndamas sharing Lunch.



1990s Comparison of Supplementation in Ndama and Zebu in Villages



1990s World Class Experimental Facilities at ITC



1989 Ian McIntyre Director General ITC 1983-1989



1989 Tony Davis, Chairman of ITC Board and Me, Director of Research.



The NDama: Nature's Answer to The Tsetse

7. Rockefeller Foundation 1963-1985

The Rockefeller Foundation played a significant part in my professional career and, as a consequence, my personal and family life. Through its vision, The Foundation has made a massive contribution to Global Education, Agriculture and Research during the 20th Century. I was privileged to be part of a revolution led by John McKelvey Junior III and John Pino of The Rockefeller Foundation, and Ian McIntyre, Bill Jarrett, George Urquhart and Frank Jennings of Glasgow Veterinary School. Veterinary Schools were created in Africa where there were none e.g, **Nairobi Vet School**, a coordinated international research programme was established to resolve Livestock Disease and promote Agriculture by creating institutes, such as **ILRAD** which became a component of a World Network of Research Institutes co-ordinated by the Consultative Group for International Agricultural Research (CGIAR) sponsored by The World Bank, FAO and UNDP, as well as Regional Research Centres such as The International Trypanotolerance Centre (**ITC**) in The Gambia, West Africa. While there have been many problems and changes along the road, the concept is still evolving for the benefit of man and animals. I was privileged to have been involved with these dreams and visions.

8. University of Glasgow Veterinary School

1985-2003 (Picture Story p.140)

I applied for the Chair of Veterinary Medicine at The University of Glasgow and was interviewed in October 1984. I left the interview and returned to Mum's in Buchanan Street, Milngavie where on arrival I had a call from Sir Alwyn Williams, The Principal, offering me the Chair.

I started on the 1st August 1985-Salary £22,530 per annum and '**All Hell Broke Loose**' to quote Max Hastings, and I retired on 31st July 2003-Salary £73,500. This was supplemented over the years by a range of consultancies up to £15,000 per annum, mainly from May and Baker Ltd, VetTest Ltd/Zynocyte Ltd and DFID from 1985 until 2000 (**X:1 and 2**).

There was a staff of approximately 50 in Medicine with a budget of 200k. We grew rapidly (**XXI:2**). While retaining my full University Chair of Veterinary Medicine, in 1995 I was appointed Professor and Head of the Department of Veterinary Clinical Studies, a newly rationalised Department. New Departments of Paraclinical and Preclinical Studies were also established so that the Faculty now comprised of three Departments. My Department now included Medicine, Surgery and Reproduction, Animal Husbandry and Production, and Clinical Biochemistry with its Diagnostic Services. By 2002, there was a staff of some 170 with an annual budget of £6 million. I continued to travel widely to Europe, Brazil USA and Canada, and Kenya and The Gambia (**cf., XVI. ME and MY FAMILY**). Throughout I was backed by Brian Wright, my 'innovative' Laboratory Manager and his able assistant, Arlene Macrae, my Secretaries Cathy Love, Barbara Gillies, and later the beautiful and highly efficient and friend Linda Bellingham who looks after me to this day; she retired on 30th November 2015. I also had great support from the wonderful Caroline Hutchison, a Faculty Administrator and the iconic Betty Blake who was Secretary to seven Deans from Sir William Weipers to Norrie Wright until 1999. From 1985 to my retirement, I formed close ties and friendships with the University Hierarchy, including the three University Principals of that time, Sir Alwyn Williams (an eminent Biological Archeologist for whom I was able to find a prehistoric Crustacean off the Atlantic Coast of The Gambia), Sir William Kerr Fraser and Sir Graeme Davis, as well as several Vice Principals, including Sir Michael Bond, John Gillespie who endorsed my proposal for establishing the A1 Fund Raising Committee at The Vet School (**cf., later**), and of course, my Life Long Friend and Fellow Ranger's Supporter Sir James (Jimmy) Armour.

My Belief was to embrace, inspire, motivate and invest in people at all levels of the Veterinary Infrastructure from the Tea Lady onwards and upwards in both the Department and the Faculty. The **Philosophy** was **WORK HARD-PLAY HARD. The Assembly of Knowledge was about Leadership-Delegation-Trust. ARCHIVES XXI.2 Academic Diary** describes aspects of my vision for **THE DEPARTMENT** and **THE SCHOOL**.

1. Teaching and Training (XXI:2.1)

My aim was to produce veterinary surgeons confident in core skills, embracing new technologies and knowledge, with strengthening of post-graduate clinical training, as well as, increasing post-graduate research opportunities.

My strategy was to consolidate and to extend on the programme initiated by Ian McIntyre and Bill Jarrett. They had vigorously pursued the concept of a final year which should be virtually free of lectures and where students would rotate through a range of hands-on clinical stations, during which they would spend time with individual supervisors and debate in small groups with clinical staff, based in State-of-the-Art Facilities.

To create time for the lecture-free final year, revision of the paraclinical course and reorganisation of the penultimate years into species blocks in collaboration with the Pathology Department had already been initiated. This was underpinned by the daily clinical-pathology post-mortem demonstrations which had been introduced in the 60s. These were the stuff of legends; a superb clinical-pathology symbiosis attended by fourth and final year students, and sometimes third year, and staff of different disciplines. Vigorous discussions ensued and these grew to be the cornerstone of veterinary education at Glasgow and often led to major research programmes. This model of a lecture-free final year was copied by many veterinary schools worldwide.

A formal Post-Graduate Clinical Training Initiative was created. The objective was to extend and improve post-graduate training, not only in research but also in the Clinical Disciplines. Up until the mid 1980s newly qualified Vets were given *ad hoc* training as 'in service' House Surgeons or Physicians in Veterinary Schools. Through the Dean, Norman Wright and myself, a Clinical Scholars Programme (**CSP**) was initiated in 1994. The CSP required new graduates to work not only in service activities but also to participate in formal specialisation training courses to obtain certificates, diplomas etc., qualifications formally recognised by the RCVS and European Community. Because of the formal training component, the Tax Authorities accepted the case made by the Dean that

salaries should be tax-free. As a consequence, many more graduates could be taken on for post-graduate training with the same budget eg., in 1985 there were 10 House Surgeons/Physicians. By 2002, this had increased to over 30 Clinical Scholars and the numbers continue to grow, as additional financial resources are identified.

This initiative was taken up by all the other UK Vet Schools and laid the basis of “Residency Programmes” that now dominate the Profession.

2. Research (cf., XII Research Highlights)

From 1985, my research focused on three main areas: **Genetic Resistance** to trypanosomiasis (trypanotolerance), and to helminths in sheep with George Urquhart and Mike Stear, the pathogenesis of **CNS African trypanosomiasis** in humans using the Frank Jennings *Trypanosoma brucei brucei* mouse model with the brilliant Peter Kennedy and Jean Rodgers and, lastly, **Veterinary Informatics and Epidemiology (VIE: XII:4, XXI:4.11)**. The latter was based on my belief in the importance of measurement which was sown by Bill Jarrett in 1962 as pronounced by Lord Kelvin (**XIII:1.180**). Consequently, the seeds started to germinate in the 1970s and 1980s as the Information and Communication Technology (**ICT**) revolution slowly but exponentially gained momentum. My full appreciation of this revolution was obtained while at ILRAD, from George Gettinby (Professor of Mathematics and Statistics at Strathclyde University) and John Trail (International Livestock Centre for Africa (ILCA) Addis Ababa) in a huge Computer Laboratory in Addis Ababa and in large well-funded field studies of livestock disease and productivity in East, West and Central Africa (13 countries involved) carried out by the ILRAD/ILCA Trypanotolerance Network (**cf., earlier ILRAD and ITC, and XII:4 Research Highlights**).

The importance of **Mathematical Medicine and ICT** was submitted in my letter of application for the Chair of Veterinary Medicine in Glasgow in 1984. On my appointment in 1985, there was rapid progress and close collaboration with George Gettinby of Strathclyde University. The Veterinary Informatics and Epidemiology (**VIE**) Initiative was recognised officially in 1992 by both Universities. In 1997, as part of the Synergy Initiative between Glasgow and Strathclyde Universities, a joint Chair in Comparative Informatics and Epidemiology was created. The brilliant Stuart Reid (a 1988 Glasgow Graduate) who had completed his PhD with Bill Jarrett and myself was appointed as Professor at the age of 32.

The VIE group is now a major international group, led by Stuart Reid until 2010 when he became the Principal of The Royal Veterinary College, London, having been the Dean at Glasgow from 2004, and includes several eminent senior staff, Dominic Mellor and Sarah Cleveland FRS etc., with multimillion pound funding covering Research, Education and Technology Transfer, bringing together Clinical Science and Biostatistics to enable Predictive Modelling, Decision Support and Diagnosis Validation. This unique combination of skills is now sought after worldwide.

3. Building Programme (XIV:2, XXI:2.2)

Subsequent to the opening of the Clinical Facilities (McCall Building) in 1954, new buildings for the Pre-and Para Clinical Departments were completed by 1968, followed by the construction of the Wellcome Centre for Comparative Surgery, The Wellcome Laboratories for Parasitology, MacRoberts Pathology Laboratories, the ill conceived Surgical and Refectory Block, upgrading of the Small Animal Clinic in 1986, and a small Equine Clinical Facility in 1987.

By the late 1980s, there were significant challenges in Academia, Research, and Commerce/Business, predisposed by the rapid growth in Medical and Biological Sciences, and Information and Communication Technologies. Glasgow Vet School's physical infrastructure had to be expanded and modernised. Significant development was imperative. Major funds were required. These could not be provided by The University and had to be sought from outside sources. A significant 'External Relations' Programme needed to be initiated to make contacts and develop relationships, some already established, many new, with Businesses, Charitable Organisations, Parastatal Bodies (National and International), our large and loyal Alumni etc. Care had to be taken as all such contacts had to be made with the approval of the University.

However, in 1988 an opportunity arose when Vice Principal John Gillespie circulated a memo calling for future plans and innovations. I submitted a proposal that was accepted by The Faculty and The University. Consequently, *a quasi* 'Veterinary School Development Committee' termed the **A1 Project Strategy Committee** was set up in 1989 (to 2003). I was appointed Chairman and with the approval and input of the Dean Jimmy Armour submitted a Building and Information and Communication Technology proposal (**XXI:2.2 Building Programme**).

The University responded favourably and agreed that we could seek funds under the auspices of The University Development Office. In the first instance, it was

decided that this would be for a new Equine Facility and for a Veterinary Epidemiological Informatics Initiative. Consequently, there were a whole series of major new Builds and Developments over the next 20 years. Subsequently, this agreement was refined through the efforts of Dean Norman Wright, and the A1 Project Committee became the University of Glasgow Veterinary Development Fund in 2003 both with the authority to prioritise projects, which then would be listed and supported by the full might of the Development and Alumni Office. The whole programme was an amazing team effort of many individuals within and outwith the University managed by myself and Norman Wright until retirement, and of course Jimmy-Sir James-Armour. In 2003, Forbes MacPherson was appointed Chairman of the Development Fund and with Stuart Reid's (Dean) support until 2010, when Peter Holmes became Chairman.

The A1 Project Strategy Committee, also took a pro-active role in Business and Technology Transfer. In 2000, a new position in this area was created to which I was appointed 'Director of External Affairs' for the Faculty until retirement in 2003 (**XXI:2.1: External Affairs 'The Quantum Leap: Lets tell the People'**). Now followed:

The Weipers Centre for Equine Welfare (WC)

The first priority was for an equine facility. The decision was made of necessity and also of opportunity. Prior to 1988, several very positive contacts with potential funders, particularly Derek Tavernor and James McAinsh of The Home of Rest for Horses, and Dr Elisabeth Svendsen of The Donkey Sanctuary, had been made by Sandy Love (subsequently appointed to the Chair of Equine Clinical Studies), Jimmy Armour, and myself, with the support of Stuart Reid. By 1990, I was in a position to make a formal request to Dr Andrew Gibb, Director of Glasgow University Development Office, to build The Weipers Centre for Equine Welfare. It was approved. Charles Anderson (Deloitte and Racehorse Owner) became chairman of the Weipers Centre Steering Committee with MM running the Steering Committee, Keith Mason, Campaign Coordinator, and very proactive members, including, Alison Bruce and Sandy Struthers etc., with the enthusiastic support of Jean Hewitt and Cathy Bell of the Development Office, who later became Director of what was rebranded the Development and Alumni Office (DAO). At that time, the Weipers Centre was the largest self-funded project ever undertaken by the University. Sandy Love travelled the world in order to identify design concepts for an imaginative equine centre. Janet Weipers, Sir William's daughter ploughed the first furrow in 1994. The Centre was in operation by 1995. Quote from Jim Schumacher, visiting Professor from Texas A&M University written before completion on December 4 1995 (**XXI:4.3 Letters of Praise**).

“I realize that the quality of people are more important to an institution than are the facilities, but I did find that the outstanding new facilities at the ‘Weipers’ Centre provided a good working environment that made my stay more enjoyable. It is evident that a great deal of time and effort went into the planning of the building. At Texas A&M University, I work in the newest, most expensive, and largest animal clinic in the world, but I think that the design of your facility provides a more efficient and comfortable environment in which to work. Whoever designed your facility obviously visited many clinics and took from each some of the best aspects of their design. I looked but could spot no flaws in your design. The facilities are attractive, comfortable, and should increase your caseload and enhance your teaching program. I think you got a lot for your money.”

In September 2001, The Weipers Centre for Equine Welfare was opened by Princess Anne (p.149). Jim Schumacher’s prediction was correct. Sandy Love, who became the first Professor of Equine Studies, was able to attract a most talented band of ‘professionals’ from throughout the world, as well as first class residents and graduate students. The WC is now a major teaching and research centre, with State-of-the Art facilities and equipment, and attracts referrals from throughout Scotland as well as England.

The cost to 2012 is approx. £8 million.

The Henry Wellcome Institute of Comparative Medicine (ICM)

The catalyst to realise the Bill Jarrett concept of One Medicine by creating a new Institute was activated by Sir James Black, former member of staff and Nobel Prize Winner, 1988). In a speech given at John Gillespie’s (Vice Principal and Professor of Pharmacology) retirement reception in 1992, Sir James highlighted Jarrett’s work on retroviruses and leukaemia, and encouraged The University and The Vet School to promote the concept of Comparative Medicine. David Onions, Andy Tait and Norman Wright (Dean) and myself travelled to London to approach the Wellcome Trust for support. Consequently, scoping studies were carried out to seek the required funds by embracing a Technology Transfer Complex. These studies were funded with the enthusiastic support of Margaret McGarry of the Glasgow Development Agency (£60K GDA). The main consultant employed was the brilliant Professor Tony Davies (Director of Chester Beatty). A project evolved for the so-called Kelvin Institute of Translational Technology. After a great deal of soul searching over a possible loss of research direction, this concept was abandoned, and Jim Neil and Andy Tait successfully submitted a visionary proposal to The Wellcome Trust in 2001. The ICM, an imaginatively conceived iconic building, was opened in 2004 exactly at the

deadline and exactly on budget, an unusual and remarkable occurrence at that time or any time (cf., **Scottish Parliament-Edinburgh Trams**). **Cost £8 million.**

The Small Animal Hospital (SAH)

With Stuart Carmichael and the encouragement of the Dean, Norman Wright, I submitted a proposal for a new Small Animal Hospital. This was approved by the University in 1998. Over the preparatory period, the A1 Project Committee did the ground work. Stuart Carmichael visited Vet Schools particularly in the US to develop design ideas, and Consultants funded by the GDA, notably Mari Hughes prepared the Business Plans.

We conceived a futuristic environmentally friendly concept of Space and Light. In 2003 the Veterinary School Development Fund Committee, with the DAO Director Cathy Bell and her team, including the energetic Ailsa MacMillan, provided unerring advice and support, was set up under the now Chairmanship of the masterful Forbes McPherson (another retired Deloitte's man) who provided strong leadership. The Small Animal Hospital, yet to be named, opened for business in 2009 and officially in 2010 by Mr John Swinney, Minister of Finance, Scotland. **Cost £15.5 million-on budget.**

The Small Animal Hospital is an iconic facility, clearly at one with the hopes of the 21st Century. It was described in the Sunday Times University Guide (12/9/10) as "Europe's most advanced animal hospital" and in 2009, it won two major architectural awards.

- Supreme Award from Glasgow Institute of Architects 2009
- The Andrew Doolan Best Build in Scotland Award 2009 from the Royal Incorporation of Architects in Scotland. This is UK's richest architectural prize: Criteria stated that the building 'set new standards in design' 'declares its presence' is recognised for the 'unique and ingenious way it integrates'----'within the park setting of Glasgow University's Garscube Estate.'

4. Technology and Business Ventures (XIV:2,3, XXI:2.3)

Core University activities are Education, Training and Furthering Knowledge. I recognised that Universities also have an increasing role in growing the economy

and, in themselves, are major businesses eg., the Vet School is the biggest employer in the West End of Glasgow. It was essential that the University must interact with Commerce and Industry, and must market itself to the public. From the 1950s, the Vet School, well before its time, was active with Industry, generating income that allowed the Vet School to grow eg., Dictol Vaccine.

In my role as Chairman of the A1 Committee and later as Director of External Affairs, I developed strong relationships with Local, Regional, National and International Development Agencies, and Commerce. Thus, strong connections were established with the Scottish Development Agency/Scottish Enterprise, in particular, Glasgow Development Agency (Margaret McGarry), Dunbartonshire Development Agency (David Macauley), as well as with Glasgow Chamber of Commerce, and the Media. There were close ties with several Commercial Organisations, in particular Pharmaceutical, Diagnostic and Information and Communication Technology Companies. Contacts were also strong with Government eg., the Department for International Development (**DFID/ODA**), Department of Trade and Industry (**DTI**) and with the European Community eg., the European Regional Development Fund (**ERDF**). I focussed on the following areas (**XXI:2.3 Technology and Business**).

Information and Communication Technology (ICT)

The importance of embracing ICT was submitted in numerous strategy documents to management in the late 1980s, including those related to Veterinary Informatics and Epidemiology. Much of the progress at The Vet School in the subsequent 20 years was related to VIE activities. The following reflects some of the highlights.

1. The Glasgow Databases

These were a remarkable resource and almost certainly unique within the UK. They were initiated in the early 1950s by Bill Jarrett and Ian McIntyre and have been meticulously recorded generating a wealth of information, integrating Owners, Animals, Vets, Clinical Diagnosis, Biochemistry, Haematology, Serology, Radiology, Biopsy and Necropsy. It started as a hard copy cross-referenced integrated system, then an unsuccessful punchcard Termatrex System conceived by the Pennsylvania Vet School in the 1970s (developed in Glasgow by Ted Fisher and myself), then, in the late 80s, was computerised to a fully integrated Faculty/Hospital multi-user/multi tasking computer system for data recording and retrieval with Irene McAndlish playing a key role. From the start the databases formed the basis of much of the undergraduate and post-graduate teaching and training. Innumerable publications and research programmes

resulted eg., the VIE group, and the innovative Decision Support package ‘The Biochemical Thermometer’ used in the VetTest 8008 Biochemical Analyser (cf., p.135).

2. Vet E-Hub

In the 1990’s, the ICT revolution was progressing exponentially and there was no doubt that its role in the future was limited only by our imagination (and money). We conceived the Cyber Odyssey ICT Centre, a concept that started to be a reality when I met Dr Pradeep Raamaya (Managing Director of AxSys Systems) in 2000. He was developing an amazing E-platform recording system for the NHS (Scotland). A concept was evolved for an E-Hospital and a Virtual Veterinary School. By 2004, significant feasibility and development funds were obtained from Scottish Enterprise with a view to integrating this vision into the new Small Animal Hospital, as a start to an even more ambitious programme (Stuart Carmichael/Stuart Reid etc., can tell what happened next). However, **We were limited by our imagination or lack of it and our vision was only partially realised.**

3. EqWISE (Equine Informatics Systems Expert)

This was the University of Glasgow’s first commercial E-commerce website. It was a vehicle for the dissemination of equine clinical diseases support. It was the brainchild of Stuart Reid, Dominic Mellor, Sandy Love, George Gettinby and myself with financial support from the Home of Rest for Horses, particularly Derek Tavernor and James McAnish.

EqWISE was a one stop source of information for the Horse-rider, Trainer, Owner, Student, Veterinary Surgeon etc., designed to improve knowledge and awareness of equine health and welfare by combining established clinical expertise, literature resources, research data, educational aids, diagnostic support and epidemiological information in one user-friendly computer interface. It has now been superseded (I hope).

4. Virtual Reality/Haptics: Virtual Rectum

Our contact with Pradeep Raamaya allowed us to appreciate the potential of Virtual Reality technology at first hand. A haptic cow virtual reality simulator – The Virtual Rectum was conceived in VIE work of the late 1990s. Its object was to help train veterinary students to palpate the cow’s reproductive tract to assess

fertility and to diagnose pregnancy. Hence the risk of student trauma from live animals was eliminated. This work was led by Stuart Reid and Dom Mellor. In 1999, it was part of Glasgow University's Queen's Anniversary Award. It was first used for teaching in Glasgow in 2003. A similar model was developed for the horse.

Sarah Baillie (a Glasgow PhD student who worked on this project) of the Royal Veterinary College received the Times Higher Education (THE) Award as the 'Most Innovative teacher of the Year' for her work with the haptic simulator in 2009.

Business

1. Clinical and Diagnostic Services (GUVS plc)

In the face of the changing economic climate and the progressive reduction in University resources, I had no alternative but to put the Clinical Departments and its Clinical Biochemical Diagnostic Services on to a Commercial Footing. The circumstances were the same for the Diagnostic Services elsewhere in the school eg., Haematology, Pathology, Virology (**Ronnie Barron, Os Jarrett**). The subsequent income has progressively increased into several million pounds. This income has become vital to the School for its support of additional personnel, training and for our progressive building programme.

2. Business Incubators: Spin- out Companies

This venture was the first of its type in the University and proved highly successful.

2.1 Animal Health Technology Complex (AHTC)

In the early 1990s, I (A1 Committee) attracted funding from the European Development Fund (ERDF), the Glasgow Development Agency (GDA) and private industry to commission and develop the Animal Health Technology Transfer Complex (AHTC), based within the Weipers Centre for Equine Welfare (**XIV: Funding.2 Development and Building**). The AHTC was the first of its kind in the University. The Complex was to provide office, workshop and laboratory space for small companies. Dr Sylvia Morrison was appointed to the new post of Commercial Manager. Sylvia had a background in microbiology and gained her Doctorate in molecular neuroscience, while working with Professor Ian Griffiths' team, then later as National Health Service Manager. Her role was to identify Faculty-based initiatives with the potential for commercialism, and

encourage and support the formation of Faculty spin out companies. The Complex was designed to stimulate the two-way transfer of skills and experience by introducing animal as well as human health companies to the latest research advances, and encourage academics to mix with entrepreneurs.

The Complex has now provided business incubation facilities and services to a number of University projects and spin-out companies including; Diagnostic Potentials Ltd which develops diagnostic tools for the early and accurate detection of Alzheimer's Disease. The Institute of Nanotechnology - (IoN) which was founded in January 1997 as a registered Charity. Core activities were focused on education and training in nanotechnology. The Institute was one of the world's first nanotechnology information providers and is now a global leader, working closely with governments, universities, researchers, companies and the general public to educate and inform on all aspects of nanotechnology. Zarpex Biosciences Ltd, a discovery stage virology company. EqWISE, an Equine Welfare Information System as described earlier. ReactivLab Ltd, a spin out company from the laboratory of Professor David Eckersall, who specialises in acute phase protein (APP) testing. ReactivLab Ltd was acquired by the Avacta Group in 2010. Biopta Ltd, who have provided contract research services to the pharmaceutical industry since 2002 and has established itself as the world leader in the use of fresh human tissues to better predict drug activity prior to clinical trials. Biopta re-located to the Centre for Integrated Diagnostic Systems Biomedical Incubator in March 2004 and subsequently due to expansion returned to the AHTC in 2006.

2.2 Centre for Integrated Diagnostic Systems (CIDS)

CIDS evolved from VIE. I submitted a major strategy paper on Diagnostics to The University in 1998 (**XXI:2.3**). The concept was accepted by The Principal Sir Graham Davies. CIDS was officially opened in 2002. It evolved from my long time interest in diagnostics, point-of-care technology and decision support. Ambitiously, it was a focus of interaction among Veterinary Medicine, Medicine, Immunology, Biochemistry, Haematology, Engineering and Electronics, and was brought about by the rapid progress in the fields of Computing Sciences, Bioinformatics, Micro-Nano-Engineering, Molecular Biology and Functional Genomics.

CIDS Objectives :

1. To develop innovative diagnostic techniques for disease and the environment.

2. Facilitate new company formation, to promote technology and transfer, and increased commercialism within the University, including, making available business and laboratory incubator facilities. The latter had the same objectives as the AHTC.

Cost of Facility - £1.2 million (Funding from ERDF; The University: XIV:2, XXI:2.3)

The University of Glasgow opened what was Scotland's first dedicated diagnostic research and development facility in 2002 in the Thomson Building at Gilmorehill. I was Chairman. The Centre for Integrated Diagnostic Systems (CIDS), a Biomedical Incubator, brought together scientists from different disciplines to develop sophisticated techniques for rapid on-site diagnosis of a wide range of conditions. The Faculty of Veterinary Medicine (MM followed by David Eckersall) was one of the academic collaborators. Others included the Department of Electronics and Electrical Engineering (Jon Cooper), the Institute of Biomedical and Life Sciences (Paul Hagan), the Department of Computing Science (George Gettinby, Strathclyde University/Stuart Reid), Departments of the Faculty of Medicine (Ian Greer), all internationally renowned in their field of research. The objective was to generate inter-disciplinary research with commercial potential. Alongside this, the CIDS Biomedical Incubator was part-funded by the European Union and Scottish Enterprise, providing laboratory and office space and management support services for spin-out companies.

The CIDS Incubator has now supported in excess of 15 companies from early Proof of Concept stage through to 2nd and 3rd stage venture funding. Companies include: Kymata, which was sold to French company Alcatel for £100 million in 2001, Adaptive Screening, KNT / Intellemetrics, Essient Photonics which secured \$7million in venture capital first round funding, Intense Photonix founded in 1999 and which raised £8million in funding on 2002, and now employs over 60 people, Grannus Biosciences, MD Biosciences founded in 2005 which is a joint venture between the University and Morwell Diagnostics, Biopta Ltd which secured a further £265,000 in investment funding in 2008, Scottish Institute for Enterprise, Xstalbio Ltd, Sistic (Scotland) Ltd, Mode Diagnostics Ltd, Landtrust Ltd. In 2011 Glasgow City Council collaborated with the University to set up a Digital Enterprise Centre within the CIDS Incubator, hosting a number of new start-up companies run by former graduates working in the field of digital technologies.

Both Business Incubator Units (AHTC and CIDS) were highly successful. By 2012, 25 of the 29 businesses that have been spun out by the University had used the foregoing incubator facilities, with the waiting list closed for non GU companies. Collectively, the companies spun out of Glasgow University with

infrastructure support from the Vet School have created well in excess of 500 high-tech jobs in Scotland, adding significant value to the Scottish economy.

In addition, it must be recognised that the Vet School was more aggressive commercially than other faculties, over the years generating millions that were ploughed back into the School e.g., phenomenal commercial successes included the Dictol Vaccine for lungworm in cattle in the 1950s (Jarrett *et al*), the Ruminol Bolus (Hemingway *et al*) in the 1970s. Several individuals ended up as millionaires, including, Douglas Hutchinson (Veterinary Times), and Richard Dixon (Vets Now) etc. One of the most successful spin-out companies to emerge from Glasgow University was created within the Faculty, prior to the existence of the incubator facilities. Q-One Biotech was founded in 1990 with just five employees, based on the work of Professor David Onions, and became a world-renowned company providing specialist safety testing services, cGMP contract manufacturing of cell banks and gene therapy products, and virus validation services to the biopharmaceutical industry. By 2003 the company had expanded to more than 260 employees. The company was subsequently acquired by BioReliance in 2003 for £48 million.

Having failed myself to acquire significant personal rewards e.g. from the Point-of-care Analysers (**VetTest 8008 etc. following**) etc., I am hopeful with NVN Ltd (**XV:6.3 Natural Veterinary Nutrition Ltd**) of following in the footsteps of David Onions *et al*.

3. Smart Diagnostic Analysers

In 1988, Jimmy Armour through Paw (Peter) Brown introduced me to Roger Clampitt, who was interested in developing Point-of-Care Diagnostics Analysers. Roger was a Clinical Biochemist who had worked with Jimmy at Coopers in Hemel Hempsted. Jimmy was aware of my interest in Diagnostics and measurement of Decision Support. Over the next 10 years, Roger and I, with a large team composed of many disciplines, including Chris Little and George Gettinby, developed a series of Instruments that were the First of their kind and a huge Commercial success (**XIX:2 Diagnostics of the Future: POC**).

3.1 VetTest 8008.

This instrument was developed and validated in our Clinical Laboratory. It was a completely new concept in Point-of-Care Blood Chemical Analysers. It was a **FIRST**. I launched it at the Farmer's Club, opposite The House of Parliament, London, in December 1989. The acronym **CRRED** described the instrument: It

was **Cheap, Reliable, Rapid, Easy (to use) and provided Decision (Support)**. In the latter respect, it included a unique software package ‘**The Biochemical Thermometer.**’ Employing the Glasgow Clinical Biochemical Database, it was found that the use of ‘percentiles’ to indicate by how much the result was abnormal, provided a much more informative picture of the clinical condition of the patient than means and standard deviations. It was a **SMART Instrument (p.187-88)**.

In 1991, IDEXX Laboratories (USA Diagnostic Company) bought out VetTest. From then until the present time the VetTest 8008 became No1 in the world Market. By 2011, 50 million instruments had been sold and samples from 500 million patients had been tested. The cost of the VetTest in 1989 was \$6000.00. In 1991, the average per slide consumption per analyser was 2000, at cost of \$1 per slide. It is a pity that the University and MM could not have benefited more???. I did get a £15,000 per year consultancy (**X:2**).

3.2 HemaTek Ltd

The same team in 1991 became involved in the development of a series of Point-of-Care Haematology instruments with the same **CRRED** principles, first as HaemaTest Ltd (2002), then ZynoCyte Ltd (2003), and then with HemaTek Ltd.

We launched the Zynocyte VS 2000, then upgraded to the HemaTek VS 2000, then the HemaTek 2001 Blood Analysis System for animals, and the HemaTek ESR Plus (ESR STAT 180) and Bilirubin Plus for Humans, as well as the remarkable supravital blood film stain (developed by Ronnie Barron, Pathology Technician). The analyser received the SMART AWARD: Small Firms Merit Award for Research and Technology in 1992 (**V., XXI:1 Awards**).

Both VetTest and HemaTek were FIRSTS initiating a new era in SMART/CRRED Point-of-Care Diagnostics. They are still in the Market Place, now with competitors. VetTest is still No 1 despite its age and still regarded as cutting edge Technology.

5. Pharmaceutical Industry

The Vet School since 1949 has had many major Partnerships with Pharmaceutical Companies relating to Vaccines, Chemotherapy, Diagnostics, Nutrition, including, Clinical Trials. Cochno, the University Farm, was used extensively for this work. Most notably Jarrett, McIntyre, Urquhart, Jennings and Armour, as

well as Gordon Hemingway and Jim Parkins were involved. From 1995 Cochno was under my watch.

I had several major funded projects particularly in Anthelmintics (Thiabendazole), and Trypanocidal drugs, Diminazene aceturate (Berenil) and Isometamidium Chloride (Samorin) and did get consultancy fees of £6000 per year (X:2). Studies were carried out on modes of action, efficacy and cost effectiveness in both the laboratory and extensive field studies, particularly in Africa. Notably, Companies, included Merck, Sharp and Dohme, Pfizer, and May and Baker. Glasgow University Veterinary School (MM), with James McAinsh (Managing Director of May and Baker Pharmaceuticals Ltd) and David Niven (Financial Adviser), International Livestock Centre for Africa, International Laboratory for Research on Animal Diseases, and Ministry of Livestock and Agriculture Development of Kenya, were awarded a British Government DTI Technology Transfer Industry Year Award 1986 for the successful implementation of Animal Health Packages for Parasitic Diseases in Developing Countries (Kenya) (V., XXI:1 Awards).

6. Other Ventures

We had a whole range of other equally exciting dreams and visions that our THINK TANK created, some were too ambitious or were before their time. For history, a few are attached here (XXI:2.3):

1. GUVS/Bloxham Diagnostics 1998-99

This involved the establishment of a joint commercial diagnostic laboratory with HESKA/Bloxham with a £1.5 million annual business plan. It was discontinued after 18 months because of management problems. The Scottish Agriculture College was the possible partner.

2. Centre for Clinical Quality-Assurance (CQ)

This initiative was stimulated by our long term close relationship with Industry, in the development of pharmaceutical and biological products, eg., Dictol. Our estimated contracts were over £5 million with the Pharmaceutical Industry from 1990 to 1999. The concept reflected our considerable expertise in Experimental Design, Data Management and Analysis, as well as experience in all major animal species, including man, and major disease entities. We also had the necessary Infrastructure e.g., Cochno, state-of-the art Diagnostic Facilities, and expertise in

Medical Informatics. However, adequate funds were not obtained for Trial Director and Administrator.

3. Medical Informatics

Based on experience from Eq-WISE and the Biochemical Thermometer, a series of scoping studies were done to develop Informatics Systems for all major animal species, including, OxWISE, OvWISE, PorcWISE, CanWISE, and FelWISE. Also, a significant effort was made with **SportsWISE**, an imaginative injury risk prediction programme for athletes, focussing on footballers (Walter Smith, Manager of Rangers FC was interested). The main protagonists were Dom Mellor, Stuart Reid, Stuart Carmichael and myself. I had a close relationship with Dr John MacLean, the Doctor for our International Football Team and Director of The Sports Medicine Centre at Hampden Park as well as the previous International team Doctor Professor Stewart Hillis. This Centre was opened in 2003 by Sir Alex Ferguson, the famous manager of Manchester United. I had my photograph taken with him (**Picture Story p.150**). We did not progress because of lack of man hours and career moves after 2003 (**XV:6.1**).

4. The Centre for Tropical Health and Education (1999-2001)

Based on the breadth of expertise and Glasgow's long close association with the Developing World, including Africa, a Virtual Centre was proposed by MM, Paul Hagan and Ian Maudlin. It would be based on Information Sciences, Informatics and Distance Learning, on Tropical Health in Man and Animals. Specific groups would be targeted across the age spectrum but the main focus would be on Children. Strong support was obtained from the Principal Sir Graeme Davis (he provided £60K for Ian Maudlin's salary) but the vision was not realised largely because key Staff moved, and proposed GU restructuring.

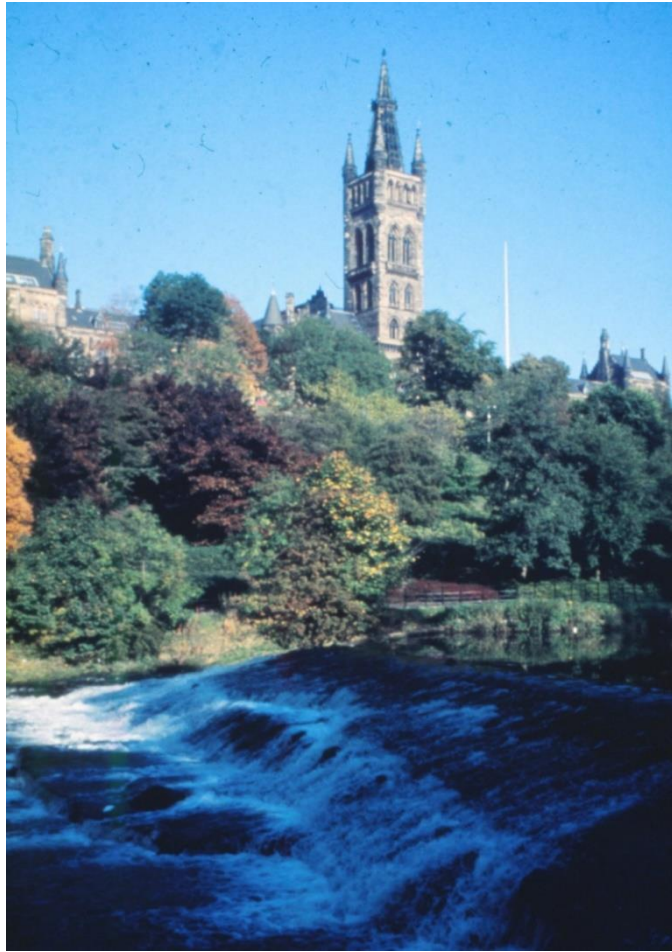
Others dreams included 'Walking the Dog to avoid a Heart Attack with Henry Dargie, Professor of Cardiology at the Western Infirmary, Obesity in Dogs and Cats, both funded by Waltham Centre for Pet Nutrition (Pedigree Petfoods, Ian Burrows, Managing Director) with the development of the Dermoscan A Ultrasound Scanner for measuring subcutaneous fat (obesity) in dogs and cats. In 1987 James McAinsh joined Efamol Vet a Division of Scotia Pharmaceuticals. They were marketing Efamol/Essential Fatty Acids (EFA) as nutrient with wide ranging effects on a variety of conditions affecting the skin, arthritis, and cardiovascular and joint problems (**compare with XV:6.3 Natural Veterinary Nutrition**). I got £100,000K from The Home of Rest for Horses for evaluation studies in the horse but the outcome was not impressive (**XXI:4.4**).

Finally, **The Concept and Dream** of providing Customer Service Infrastructure at Garscube, including, Banking, Shopping, Hotel, Restaurants etc., was promoted but lost impetus when I retired.

My activities between 1985 and 2003 realised multi-millions. This funded additional Staff for Research and Teaching, state-of- the art Equipment, the Building Programme, the E Revolution, Travel and A1 Think Tank Meetings. These meetings were often held in good Restaurants (one of which ran out of Champagne), another planned for The Seafood Restaurant at Lochbay in Skye (this failed to take place because I could not hire a big enough Helicopter), or Pubs or Major Dinners, often at the Hilton Hotel. VIP tickets were exploited e.g., for our Tea Lady Carol Murray and her Husband to attend a Frank Sinatra (a life time ambition) Concert at Ibrox Park (cf., XIV. FUNDING). My Salary on retirement was £73,500.

TO BE CONTINUED ? SECTION XV-2003 and ONWARDS

PICTURE STORY Glasgow Vet School 1985-2010



Glasgow University Gilmorehill.



Garscube House purchased for £16K in **1948** from The Campbell Family and demolished in 1954 due to Dry Rot.



Small Animal Hospital **1986-2009**



Garscube Estate: River Kelvin



Garscube Estate



Cochno House/Farm, part of Clinical Department from 1995



1986 WHO Geneva Chairman (3rd from left) TDR STRC (X.1.8)



1987 Our 25 Year Class Reunion



1988 Weipers Lecture: Us, Grandpa, Sir William Weipers



1989 Me: Olkirimatian Maasai Ranch, Nguruman Plateau, Kenya



1989 RileyThreat: Donald Dewar, Sam Galbraith *et al*



1990 Our Deans Jimmy Armour, Tom Douglas, Bill Mulligan, Ian McIntyre, Norrie Wright and Betty Blake (THE BOSS)



1990 January George Urquhart, Peter Kennedy, Me, Naivasha Kenya



1991 Post-Mortem Room: The Emperor Jimmy Murphy and Richard *et al* outside The Post-Mortem Room



1991 My Weipers Lecture: Me, Christine, Norrie, Ian Burrows/Wife



1997 VIE Initiative: Me, George Gettinby and Stuart Reid at top of Strathclyde University



1992 Betty Svendsen Honorary Doctorate (DVMS), Me, Norrie Wright and Jimmy Duncan.



2000 James and Gloria McAinsh, Honorary Fellowship.



2001 Princess Anne opens Weipers Centre



2001 Weipers Centre for Equine Welfare



2003 Stewart Hillis, Sir Alex Ferguson, Me, John Maclean:
Opening of Sports Medicine Centre at Hampden



2004 Institute of Comparative Medicine



2010 SAH: Murray Family Funded Social Facility: Light and Space



2010 Our Small Animal Hospital

XII. RESEARCH HIGHLIGHTS (Picture Story p.159)

(Chapter XIII Publications)

My Research Philosophy was influenced by world class Scientists, including, Bill Jarrett, Ian McIntyre, Jimmy Armour, George Gettinby, John Trail, Tony Davies, Peter Kennedy, Stuart Reid and Sir James Black etc., (**XIII:1.180, ‘Parasites, Predators etc’**). My concept promoted an interdisciplinary-multidisciplinary team approach to research, complemented by mathematical medicine, carrying out integral clinical and pathology studies to elucidate the pathogenesis of important diseases, in particular, Ostertagiasis, Fascioliasis, Trypanosomiasis and a range of viral infections. Mouse and rat model systems for parasite infections made key contributions. At the same time, I played a leading role with Roger Clampitt in the development of VetTest and HemaTek, the first instruments in a new era in SMART/CRRED Point-of-Care Diagnostic Technology. They are still in the Market Place. VetTest is still No 1 despite its age and still regarded as cutting edge.

Blue skying, thinking outside the box, linking the gene to the sick animal/patient and new Technology, and sometimes to the dollar, all playing an exciting part (**XIX:1 The Magic Essence**). **My Highlights are as Follows with Key Papers:**

1. Helminthiasis

- Delineation of the main pathogenic mechanisms responsible for the disease processes in economically important helminth infections of cattle and sheep, namely ostertagiasis and fascioliasis (**XIII:1.19; XIII:2.15**). My main collaborator was Jimmy Armour or Sir James. It was found that *Ostertagia* species have two major pathogenic effects: firstly, gastric mucosal damage with parietal cell dysfunction, resulting in elevated ph of gastric juice, followed by a logarithmic increase in bacteria and a reduction of pepsinogen activation to pepsin: consequently, gastric hyperplasia with mucosal hyperpermeability leading to protein-losing gastropathy, hypoproteinaemia and elevated plasma pepsinogen levels: the latter is now used as a blood biochemical marker for diagnosis.
- Definition of the potential role of immediate hypersensitivity reactions in the expulsion of helminths from mucous surfaces, particularly the part played by mast cells/globule leucocytes, using the model system of *Nippostrongylus brasiliensis* in the rat (**XIII:1.13,22; XIII:2.6**). Hugh Miller and Bill Jarrett and I explored the mechanisms in the gut that caused the leak lesion. We found that there was a very substantial recruitment of subepithelial mast cells into the intestinal mucosa in the rat at the time when the animals were becoming resistant to infection. The ‘leak’ lesion was quantified during worm expulsion and it was shown that it was associated with the release of mast cell-derived

amines, which were involved in the elimination of the parasites. These cellular responses with related mucosal hyperpermeability also occur in *Ostertagia* and *Fasciola* infestations in cattle and sheep. At the same time, the intraepithelial and subepithelial cells packed with large membrane-bound granules, previous of unknown origin and called globule leucocytes, were shown to be mast cells that had discharged their vasoactive amines. Overall, this work resulted in the first cohesive concept of the role of the allergic response in the immune rejection of gut nematodes. Based on this knowledge, a highly efficient model vaccine against *N. brasiliensis* was developed using adult worm antigen coupled with *Bordetella pertussis*, an adjuvant known to potentiate immediate hypersensitivity reaction.

2. Haemoparasites

2.1 African Trypanosomiasis

- Development of a simple point-of-care parasitological technique (microhaematocrit buffy coat Darkground Ground microscope test) for detecting African trypanosomes, in collaboration with Leitz, Germany. In addition to measuring Packed Red Cell Volume (PCV), this is the most sensitive parasitological diagnostic technique available for animals, allows species identification and semi-quantification, and is widely used throughout Africa (**XIII:1.49,77**).
- Delineation of the major pathogenic mechanisms in animal African trypanosomiasis. These include definitive studies on the nature of the anaemia, tissue damage, immunological hypersensitivity reactions, immunosuppression and the chancre (the first clinical sign of infection) (**XIII:1.43,44,45,57,72,116; XIII:2.14,18,26,34**).
- Vaccination against African trypanosomiasis would appear to be an insurmountable problem because of the phenomenon of Antigenic Variation, the large but unquantified number of diverse serodemes that exist, and the several different species of salivarian trypanosomes involved. One possible chink in the trypanosome's armour is, when it passes cyclically through the tsetse, it sheds its variant surface antigen coat and exposes a common constant antigen. Immunisation of goats with these uncoated forms, grown *in vitro* significantly reduced transmission rates of *Trypanosoma congolense*, *T. brucei* and *T. vivax* in tsetse (**XIII:1.95**). This is an important biological finding but probably has little significance in the quest for a field vaccine.
- Using the *Trypanosoma brucei brucei* mouse model (developed by Frank Jennings and myself) which simulates all aspects of human African trypanosomiasis (HAT, Sleeping Sickness), important potential advances

have been made in the understanding of the pathogenesis and in the treatment of HAT, namely,

- i. Astrocytes stimulated directly by trypanosomes play a pivotal role in producing the cytokines that initiate and maintain the severe meningoencephalitis (**XIII:1.131,138**) that is the main feature of the disease in man and in some animal species.
- ii. The polyamine inhibitor eflornithine was shown to prevent or ameliorate the CNS inflammatory process (**XII:1.172**). Furthermore, it was demonstrated that antagonists of substance P (a neuropeptide) had a significant effect in alleviating the CNS inflammatory reaction (**XIII:1.167,192**). Both these findings could lead to novel treatments of HAT and other cytokine-mediated inflammatory conditions in animals and man (including HIV encephalitis).
- iii. Demonstration that brain IL-6 and IL-10 are associated with protection from neuroinflammatory changes in trypanosome infection (**XIII:1.193**).
- iv. The development of a grading scale to determine, consistently and accurately, the severity of neuroinflammation and clinical impairment exhibited by trypanosome-infected mice. These scales were unique and allowed for the first time objective quantitative analysis with correlated integration of the clinical and pathological progress of the disease process, thereby, increasing the rigour of pathogenesis research (**XIII:1.192**).
- v. Major advances in chemotherapy led by Frank Jennings and later Peter Kennedy were made. It was shown that Drug doses used can be reduced by combination chemotherapy (**XIII:1.144,159,162,191**) providing new hope of safer and more effective treatment. For the first time, it was found that the highly toxic arsenical drugs which are given intravenously to treat HAT can be administered topically thereby avoiding the serious side effects that occur in at least 10% of all treated cases. In a breakthrough of massive potential, Peter Kennedy and his research team (Jean Rodgers and MM etc.) have recently produced and tested in the mouse model a complexed melarsoprol drug that can be given orally, is non-toxic and curative. Plans are now under way for carrying out a study of complexed melarsoprol in patients with CNS stage *T.b.rhodesiense* HAT in Uganda. If successful, this would be a massive breakthrough as there has never been a safe effective drug for HAT. Also, there is the added benefit that it is administered orally.

2.2 Theileriosis

- Demonstration of the importance of cell-mediated effector mechanisms in host immunity to East Coast Fever (*Theileria parva*) and, for the first time in cattle, genetically-restricted cell-mediated cytotoxicity (XIII:1.69; 2:29).

Proof that *Theileria taurotragi* is a pathogen in Eland (XIII:1.65).

3. Genetic Resistance

3.1 Trypanosomiasis--Trypanotolerance

- Demonstration in parallel studies in the field and in the laboratory of significant genetic resistance to trypanosomiasis and other parasitic diseases in specific breeds of indigenous African cattle, mainly the N'Dama (*Bos taurus*, Hamitic Longhorn), and also of their real productive potential (XIII:1.70,86,128,129; XIII:2.46,50).
- The resistance is a powerful genetic trait, commonly termed trypanotolerance, and is characterised by the capacity to control parasitaemia and the ability to resist the development of anaemia (XIII:1.70,86; XIII:3.6). These parameters can be measured by simple point-of-care technologies (XIII:1.49,56,57; p.153). Both traits are repeatable, genetically controlled and heritable, and positively correlated to productivity, as computed by all major production traits (XIII:1.147; XIII:2.46,47).
- The N'Dama has significant productive potential (XIII:2.45,48).
- At the same time, N'Damas when compared to Zebu breeds or imported breeds such as Friesians or Ayrshires show a superior immune response to variable and non-variable trypanosome antigens, have a better immunological memory and a greater capacity to acquire resistance to the effects of the infection (XIII:1.128,129; XIII:2.30,46).
- It was also shown that certain *Bos indicus* types in East Africa such as Orma Boran, East African Zebu and Sahiwal crosses possess a degree of innate resistance and the capacity to acquire resistance (XIII:1.179).
- As a result, trypanotolerant breeds, mainly N'Dama, are now a major if not the only option for sustainable livestock development in 19 of the 40 countries in tsetse-infested areas of West and Central Africa (XIII:2.45). In 11 of those countries, cattle have been imported or moved into the highest risk areas. Embryo transfer was used, for the first time, to introduce to N'Dama into Kenya, East Africa, from The Gambia, West Africa (XIII:1.99). MM led the team that collected the N'Dama embryos that were transplanted into surrogate

Boran mothers in Kenya in 1983; 10 N'Dama calves were born in 1984, the first 5 were males and the next 5 were females. The first male was called Max.

3.2 Genetic Resistance – Helminthiasis

- Confirmation of earlier observations of the resistance of Red Maasai Sheep in Kenya to *Haemonchus contortus* (XIII:1.169,170) and extension of such studies to genetic resistance in British Sheep, particularly with respect to the Scottish Blackface and *Ostertagia circumcincta*.
- Using faecal egg counts as a marker, it was shown in Scottish Blackface that resistance to *Ostertagia circumcincta* is a heritable trait and genetically correlated with growth rate. In addition, a gene has now been identified that strongly affects faecal egg production. It is one of the most powerful parasitic disease resistance genes identified to date (XIII:1.149,151,160,173).
- These findings mean that selective breeding for sheep resistant to *Ostertagia circumcincta*, the predominant nematode in the UK, is both feasible and desirable, particularly with the problem of increased drug resistance.
- Demonstration that there is a strong and significant interaction between the influence of genetics and of nutrition. Resistant breeds thrive on diets which are inadequate for genetically susceptible animals. At the same time, susceptible breeds show a marked increase in resistance and productivity following dietary supplementation (XIII:1.153,161,184).

4. Epidemiology, Bioinformatics and Diagnostics

- While at ILRAD, Nairobi, together with Dr J.C.M. Trail of ILCA, I was joint project leader of the ILCA/ILRAD Trypanotolerance Network, the objective of which was to evaluate the impact of tsetse-transmitted trypanosomiasis, and other diseases, on animal productivity at a range of sites throughout Africa (13

Influence of breed on productivity

Breed	No. of herds	Management	Challenge	Productivity index (Kg) *
Zebu	20	Ranch	Zero-light	38.6
Trypanotolerant	30	Ranch	Light	37.1

* Total one year old calf weight and liveweight equivalent of milk produced per 100 kg of cow per year

countries were involved). Integrated large scale epidemiological surveillance programmes, by measuring production and disease data in parallel, allowed the development of composite productivity indices that acted as a baseline to evaluate the cost-effectiveness of control measures available, eg., genetic resistance and drugs (**XIII:1.96; XIII:3.28; XIX:4**). It was shown that the level of resistance to trypanosomiasis and other endemic diseases, and the productive potential of the N'Dama and the West African Shorthorn was significant. Productivity was found to be similar to other indigenous breeds (*Bos indicus*) in areas of zero or low tsetse risk, while in areas of higher risk they were the only breeds that could survive and be productive without drugs (**XIII:2.45,48; XIII:3.28**).

- In further large scale analysis in East Africa, it was demonstrated that both chemotherapy and chemoprophylactic strategies can be highly cost effective in controlling trypanosomiasis over many years in both ranch and village management operations (**XIII:2.43; XIII:3.24; XIII:1.96; XIX:4**). It was also found that even small differences in genetic susceptibility can be of significant financial value where drug strategies are used (**XIII:2.30**).
- For one such programme in Kenya, myself and James McAinsh, Managing Director, May and Baker Pharmaceuticals were awarded a British Government DTI Technology Transfer Industry Year Award 1986 for the successful implementation of Animal Health Packages for Parasitic Diseases in Developing Countries (Kenya) (**XIII:2.43; XIII:3.32,38; V. AWARDS; XXI:1. Awards**).
- Following collaboration with John Trail and George Gettinby (University of Strathclyde) at ILRAD and ILCA, on return to Glasgow in 1985, I established with George Gettinby a Veterinary Informatics and Epidemiology Group (VIE), with a full joint Professorial Chair being created in 1997 and filled by Stuart Reid (**XXI:4.11**). The major *raison d'être* was in the development of management tools for the prediction, prevention and diagnosis of diseases in man and animals using models and expert systems, creating software products, including the Biochemical Thermometer, Haematocritique and VeNom, the web-based EqWISE, a knowledge base providing decision support, Bayesian expert systems and hypertext Information resources, all at the cutting edge of the new phenomenon that was the world wide web. This group is now one of the largest of its kind in the world (**XIII:1.176,177,183**).
- **Smart Diagnostic Analysers.** I was involved in the research, development and commercial exploitation of the **VetTest 8008**, a new concept in Blood Biochemical Diagnostics launched in 1989, and of the **HemaTek 2001/2**, a new concept in Haematology Diagnostics now on the market. Instruments such as these were the forerunners of the SMART machines of the future

which will not only detect and measure but interpret results (**XI:8.4 Technology and Business; p.187-188**).

5. Other Activities over the Ages: Kenya *et al* (p.189-194)

- During my early experiences- in Kenya (1963 to 1965) with Bill Jarrett, I encountered many exotic diseases in domestic and wild animals, such as papillomas in association with vulvo-cutaneous carcinomas in cattle, transmissible venereal tumour in dogs and *Spirocerca lupi* in dogs and wild cats, a putative cause of oesophageal sarcomas, all relevant to future cancer research eg., the papilloma virus vaccine for Cervical Vaccine now used in women. With Bill Martin, transmission studies were carried out on Ephemeral Fever in cattle which was raging through Kenya. With Bill Jarrett, I acted as a consultant for the Kenya Game Department and Nairobi City Council (awarded £2000), identifying the widespread problem in Tsavo and Serengeti Wildlife Reserves of muscular dystrophy in Antelope, including the rare Hunters Antelope, and investigating Fluorosis in man and animals (**XI:2**).
- I made definitive studies with Bill Martin of several viral infections in ruminants, including, Ephemeral Fever, bovine herpes mammillitis, vaccinia, paravaccinia and malignant catarrhal fever in cattle and pox virus in sheep (**XIII:1.16,20; XIII:2.7**).

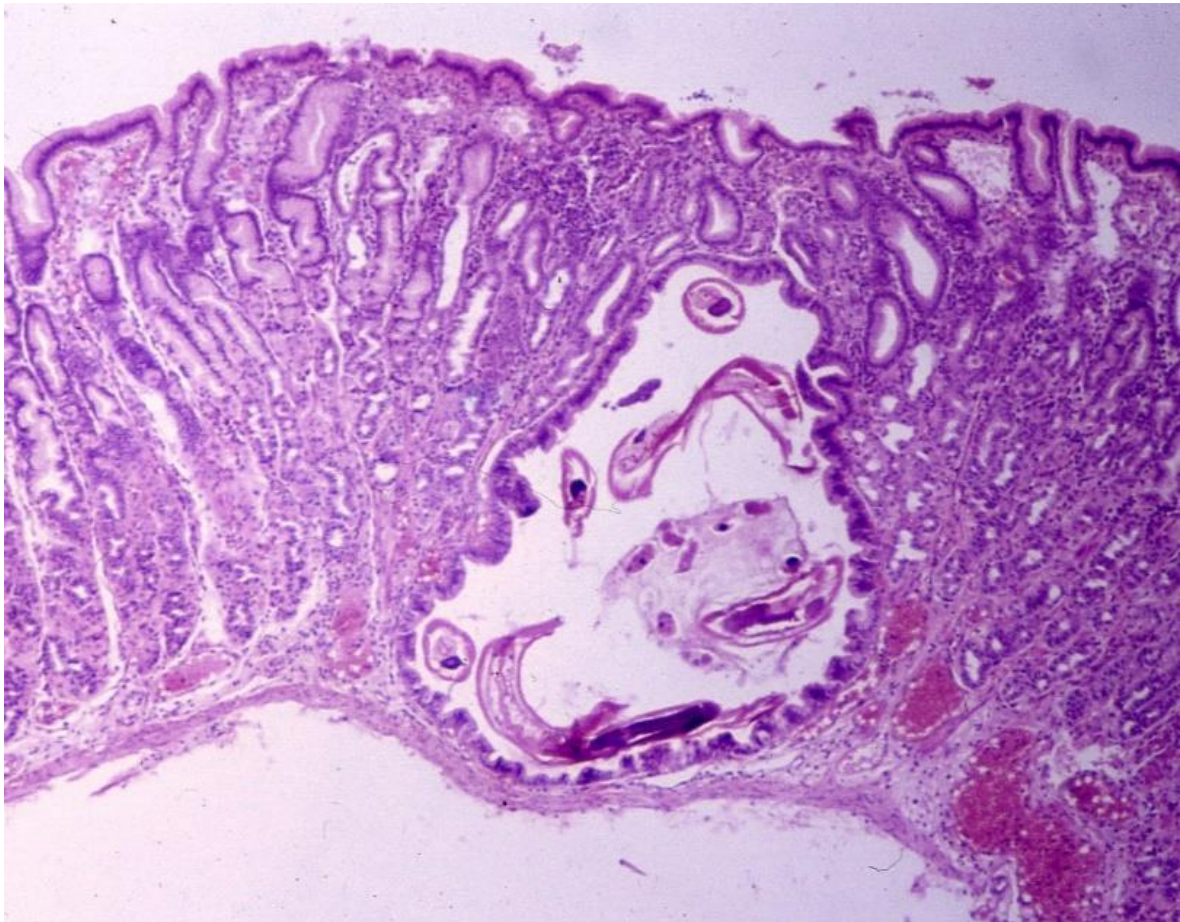
The above work reflects a philosophy that research must be multidisciplinary/interdisciplinary and international and that it must be integrated from the gene to the patient to the pound sterling where possible.

PICTURE STORY Research Highlights

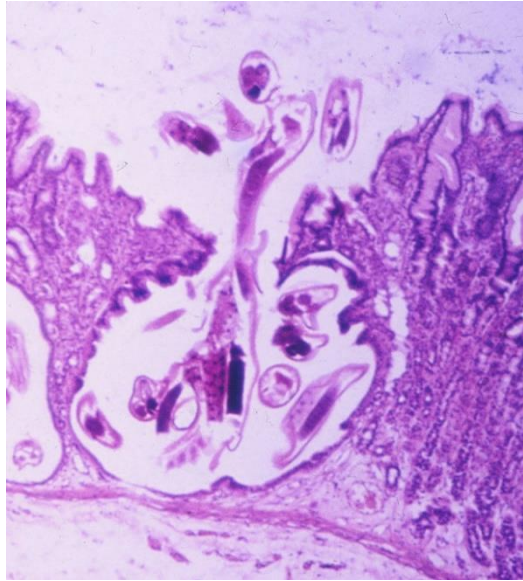
1. Helminthiasis



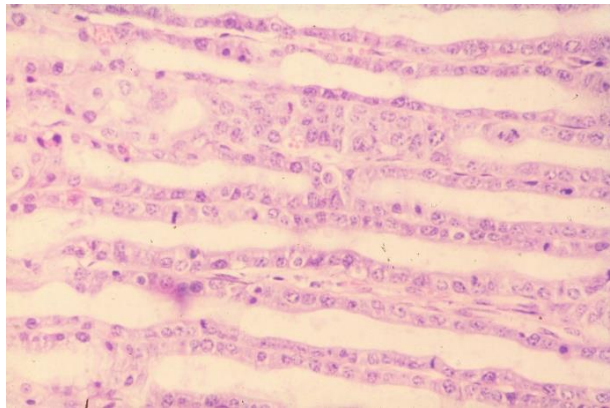
Ostertagia ostertagi: Severe Hyperplastic Gastritis.



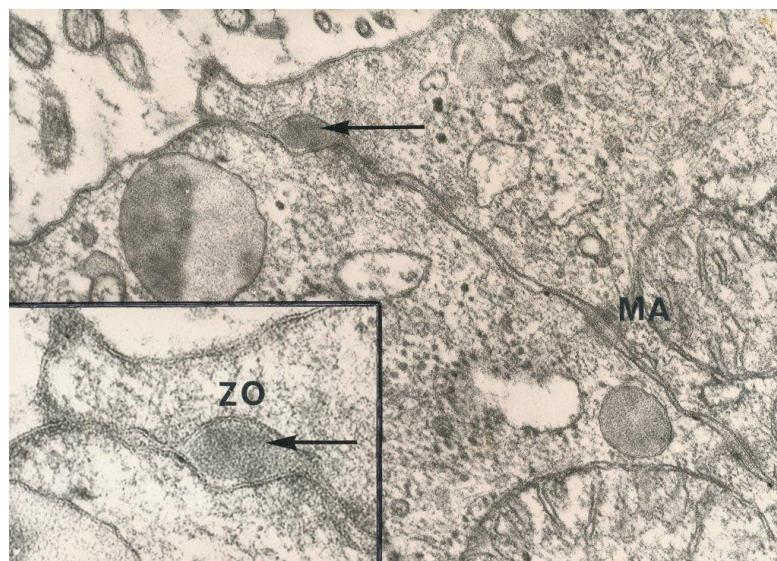
Ostertagia ostertagi: Day 18 parasitised gastric gland.



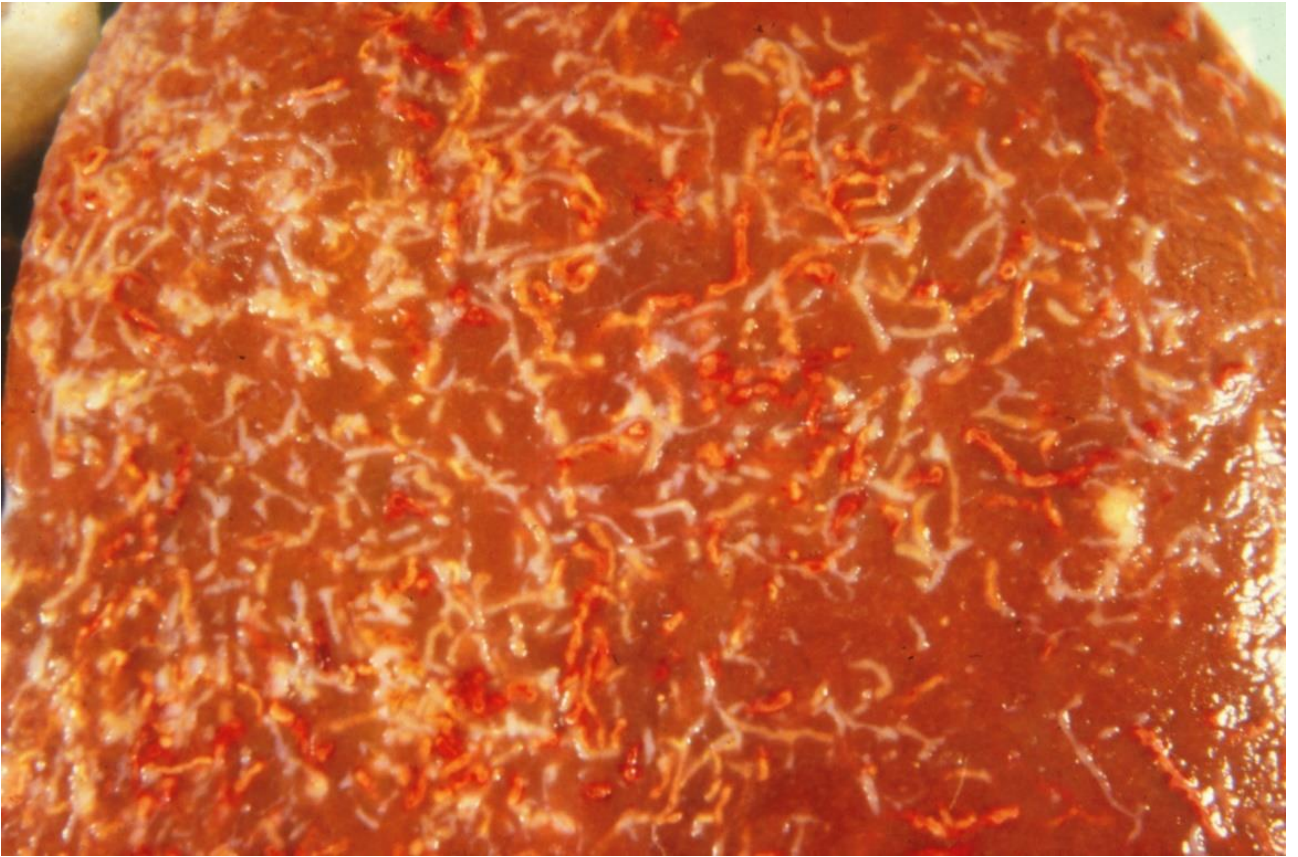
Ostertagia ostertagi: Day 21 emerging adult parasite



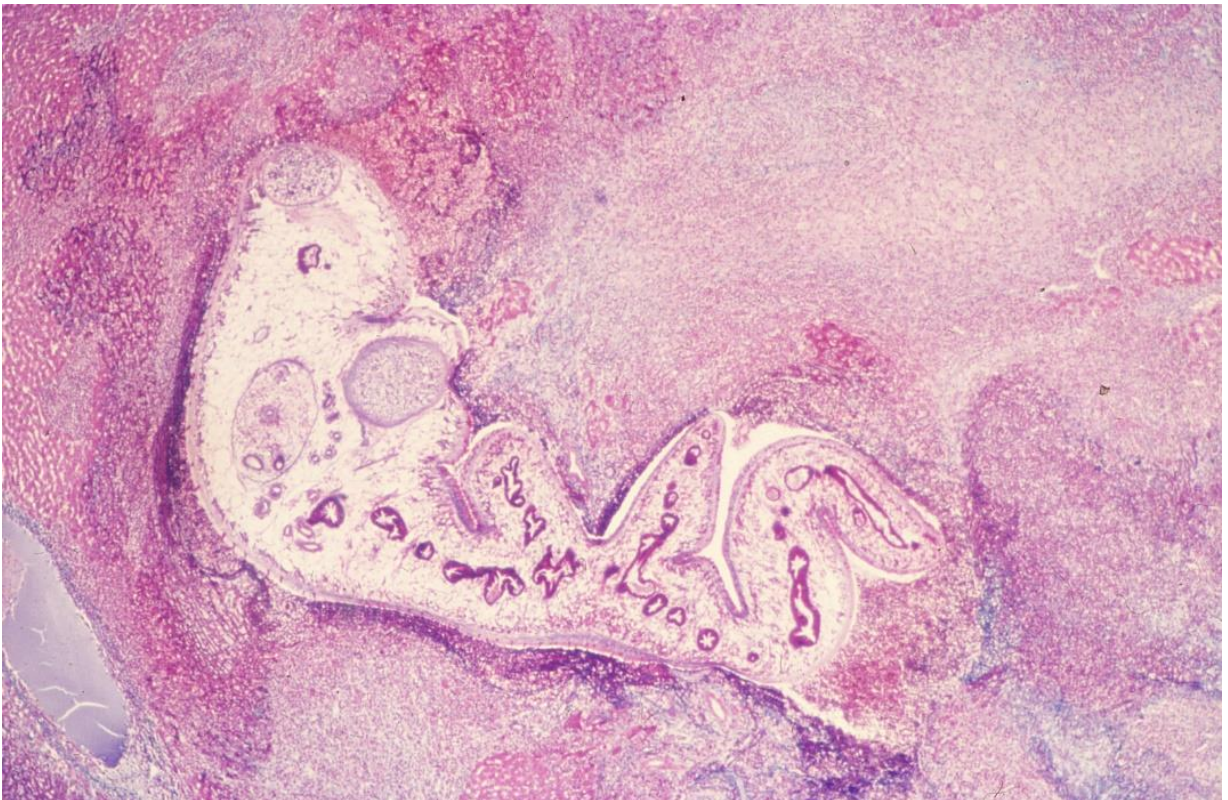
Ostertagia ostertagi: Undifferentiated non-functional gastric epithelium



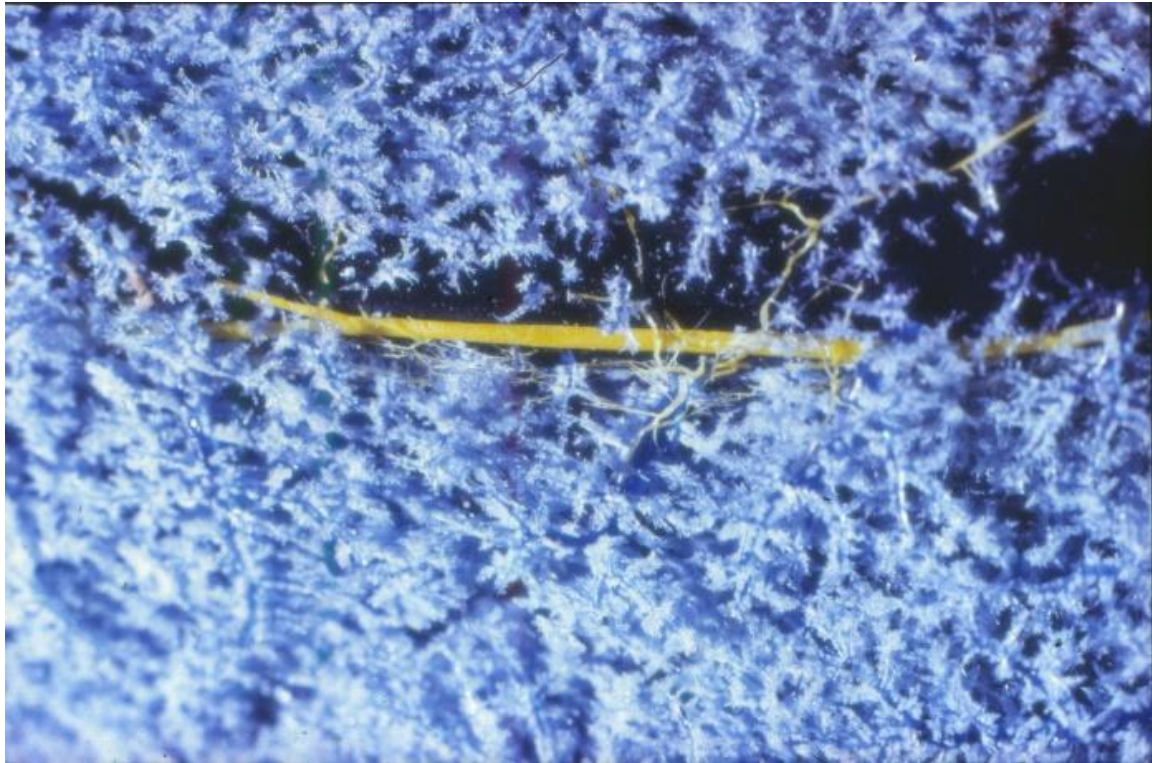
Ostertagia ostertagi: Electron Microscope Leak Lesion



Fasciola hepatica: Necrotic larval tracts in ovine liver.



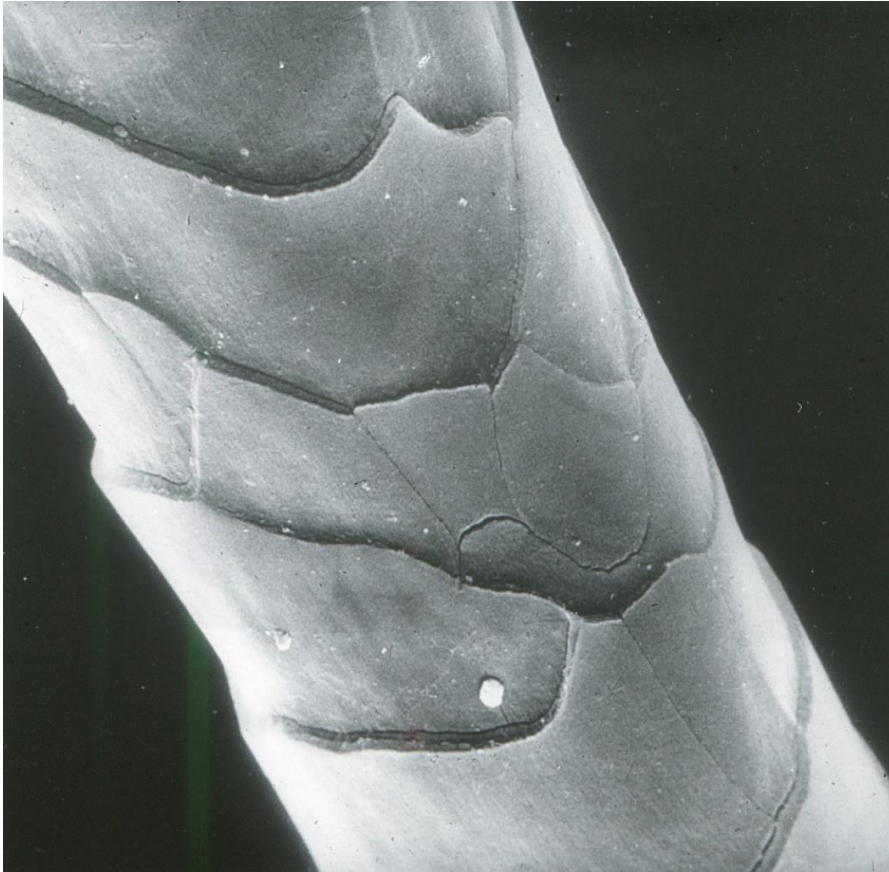
Fasciola hepatica: Total destruction of liver by migrating larva.



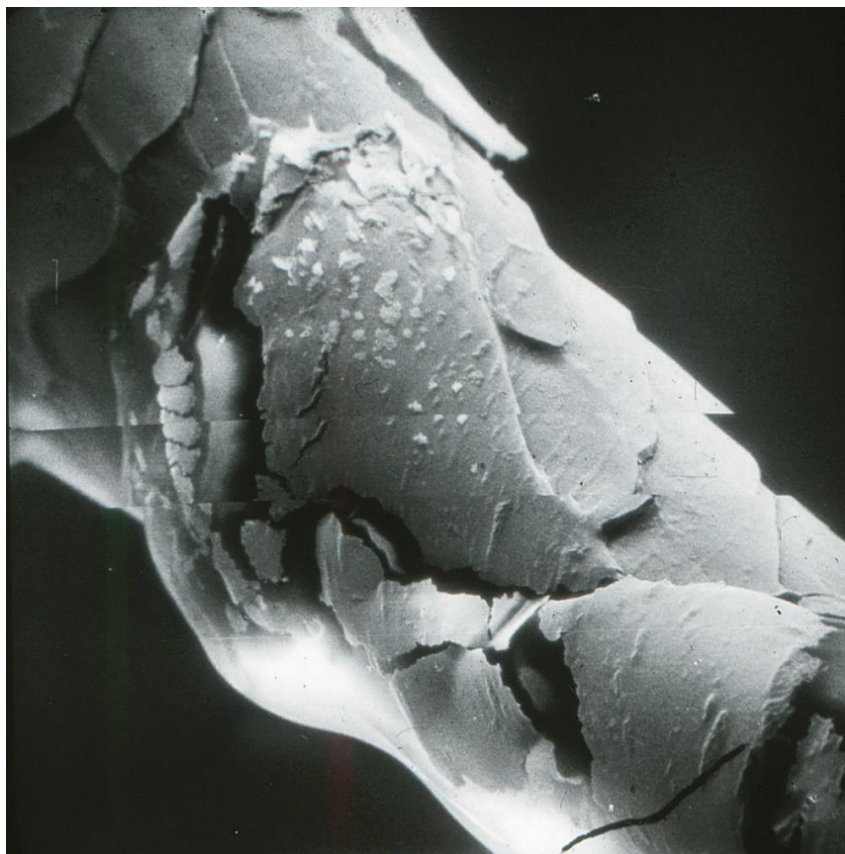
Ovine hepatic vasculature in healthy animal.



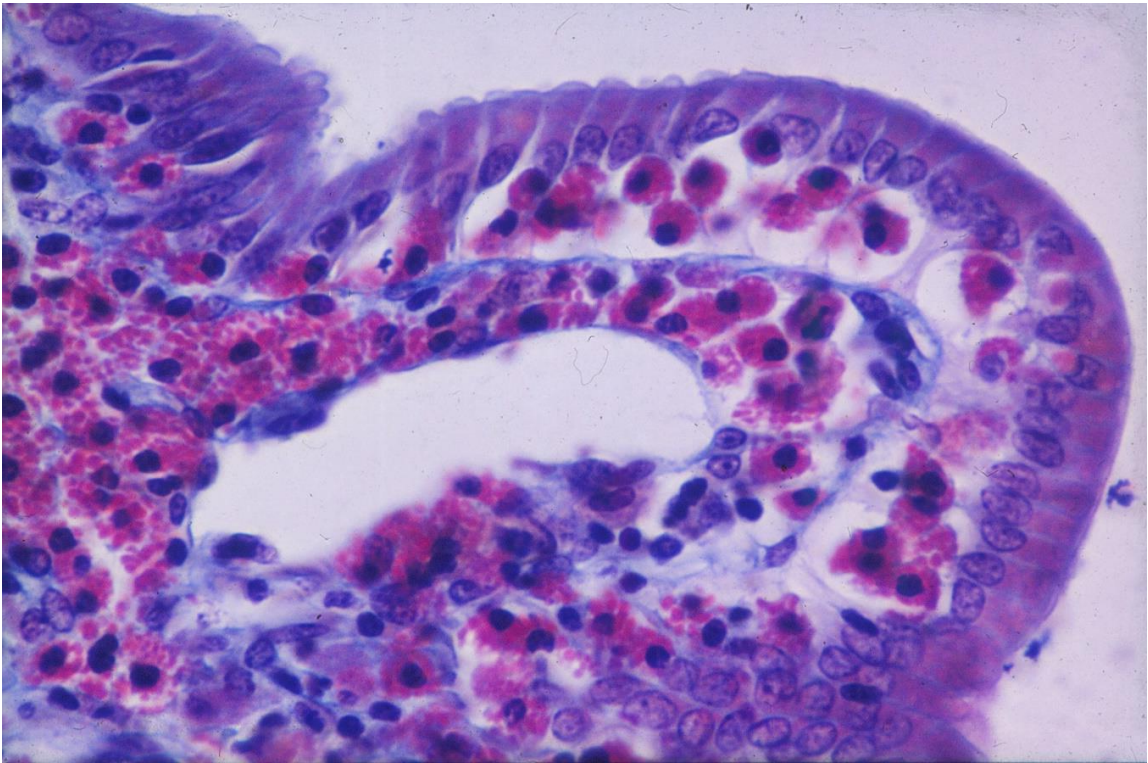
Destruction of hepatic vasculature in *Fasciola hepatica* infected Sheep



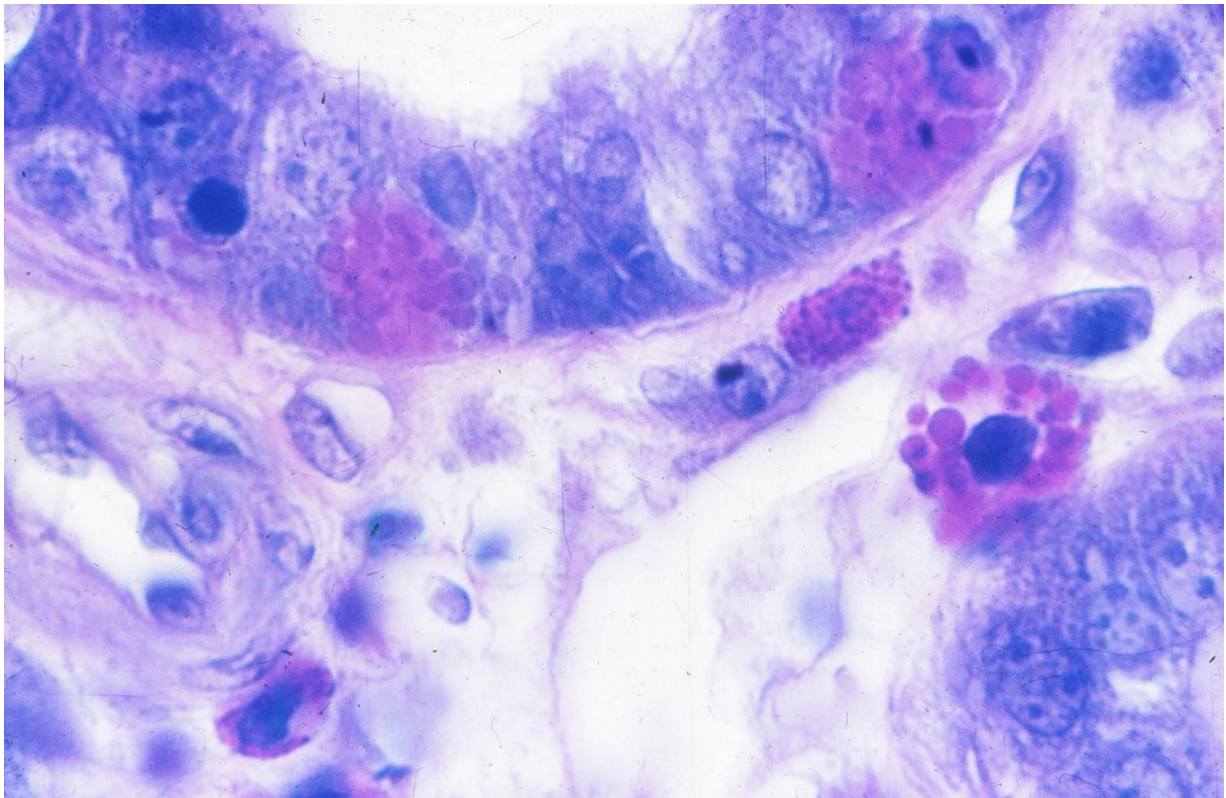
Scanning Electron Microscope: Wool fibre in non parasitised Sheep.



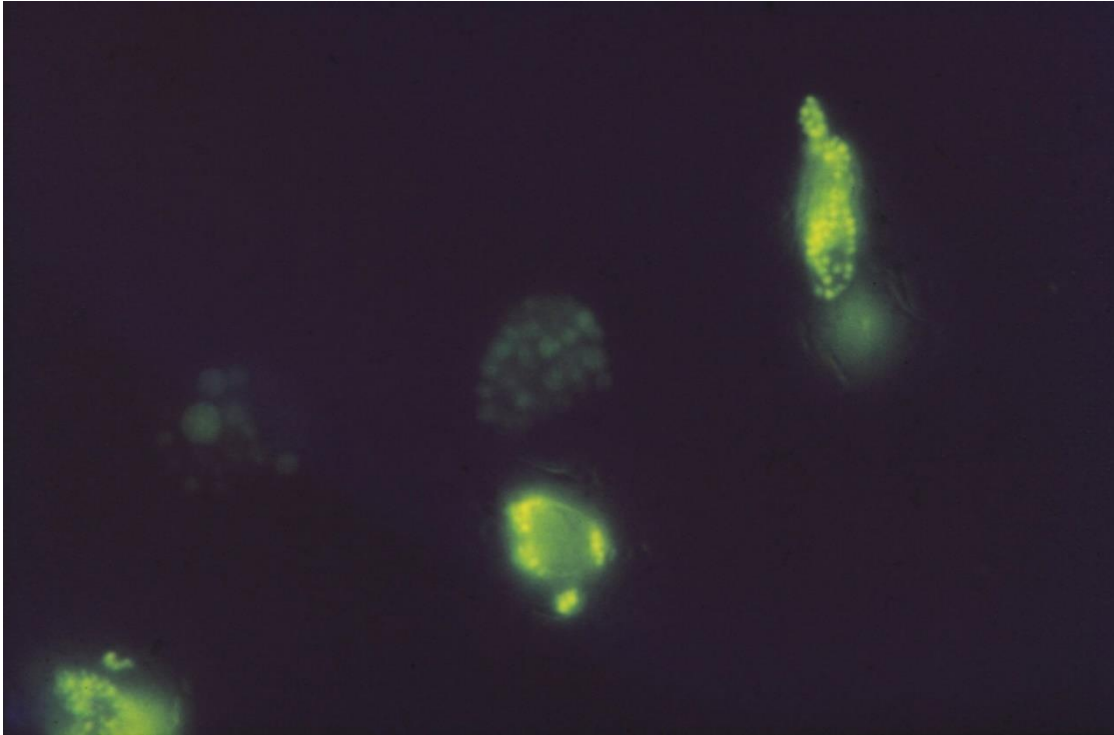
Scanning EM: Damaged wool fibre in fluke-infected Sheep.



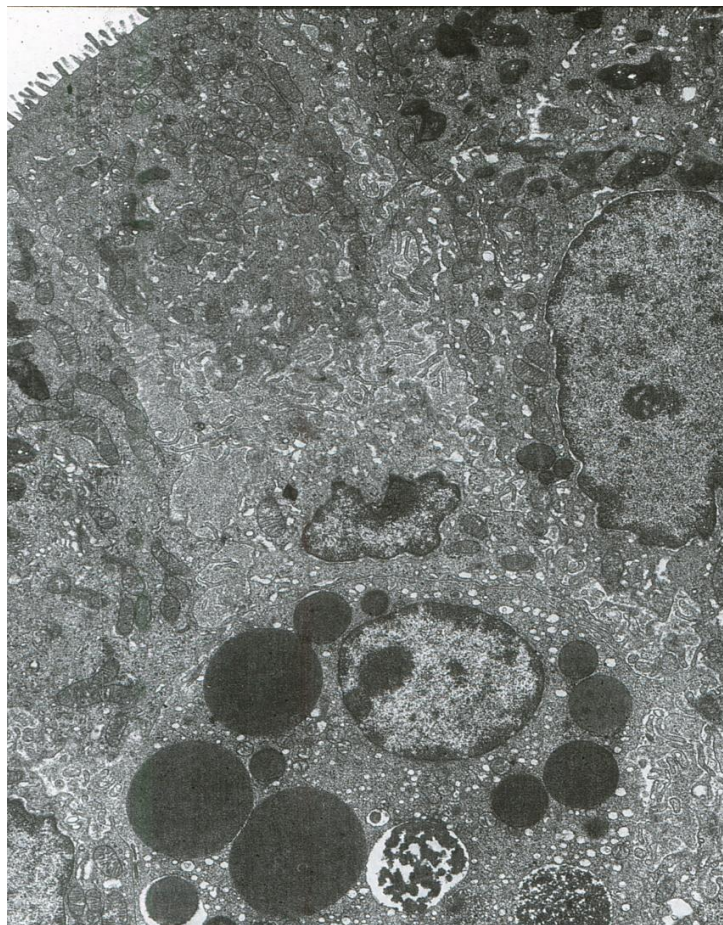
Globule leucocytes in Gallbladder of *Fasciola hepatica* infected Sheep



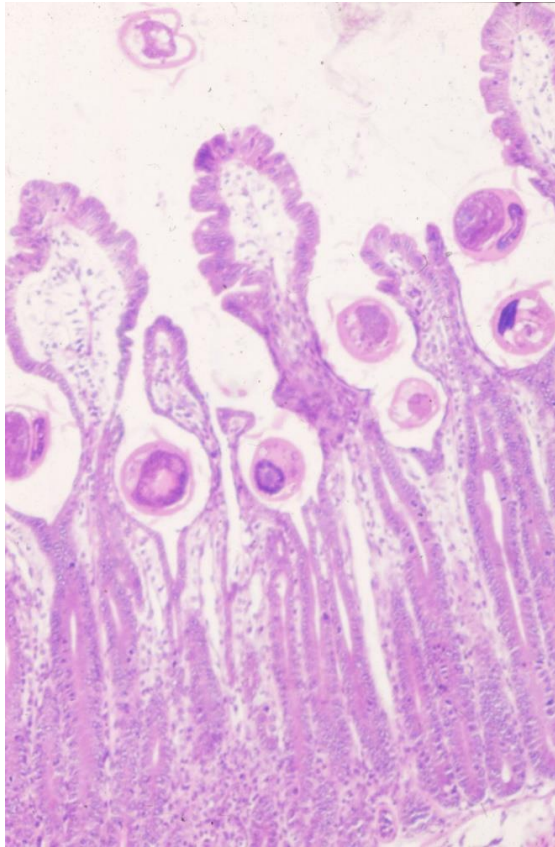
Mast cells/Globule Leucocytes in Abomasum in Bovine Ostertagiasis



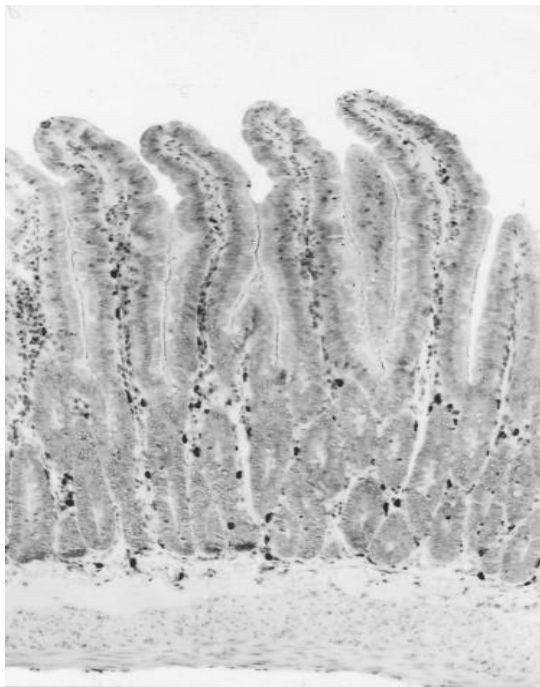
Salk technique demonstrating Catecholamine discharge in Mast cells and Globule Leucocytes in Bovine Ostertagiasis



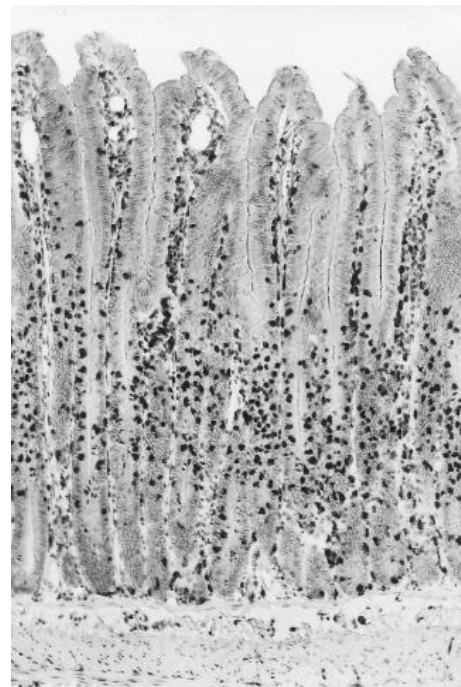
EM: Globule Leucocyte in bile duct of *F. hepatica* infected Sheep



Nippostrongylus brasiliensis infected rat Day 7: total Mast Cell Discharge

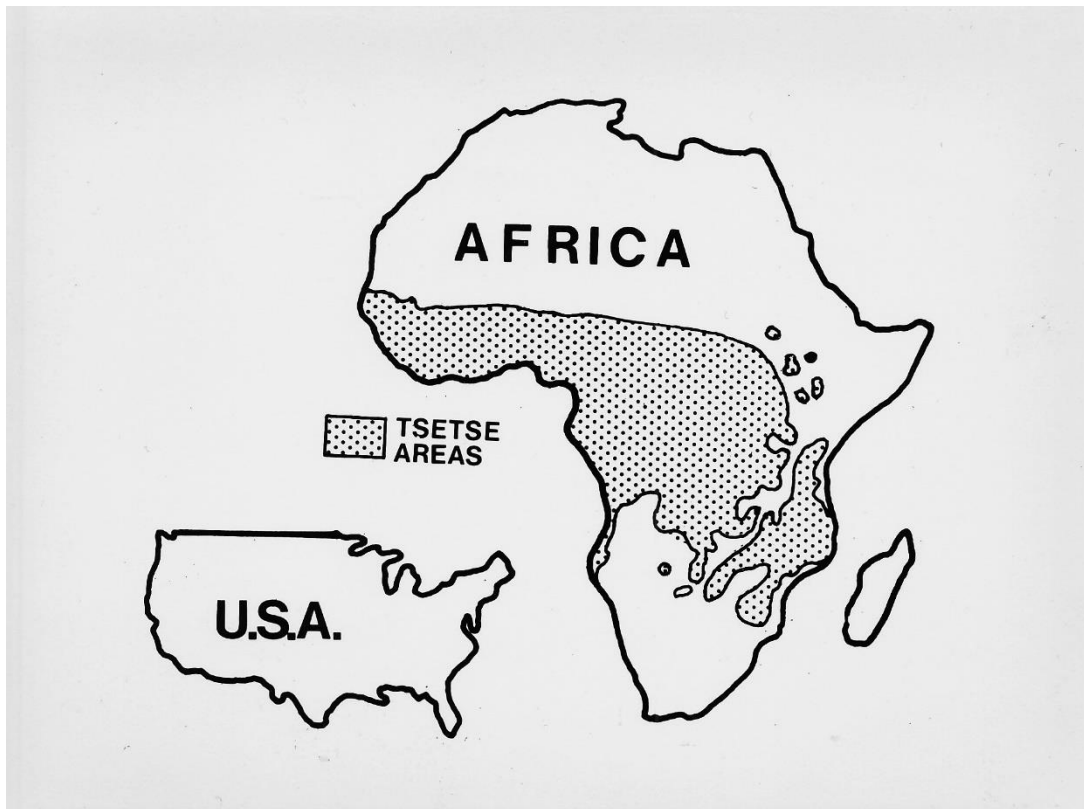


Control 10-12 Mast Cells per Villus Crypt Unit in Jejunum



Worm Expulsion Day 14 Massive Mast Cell/GL response

2. Haemoparasites: African Trypanosomiasis



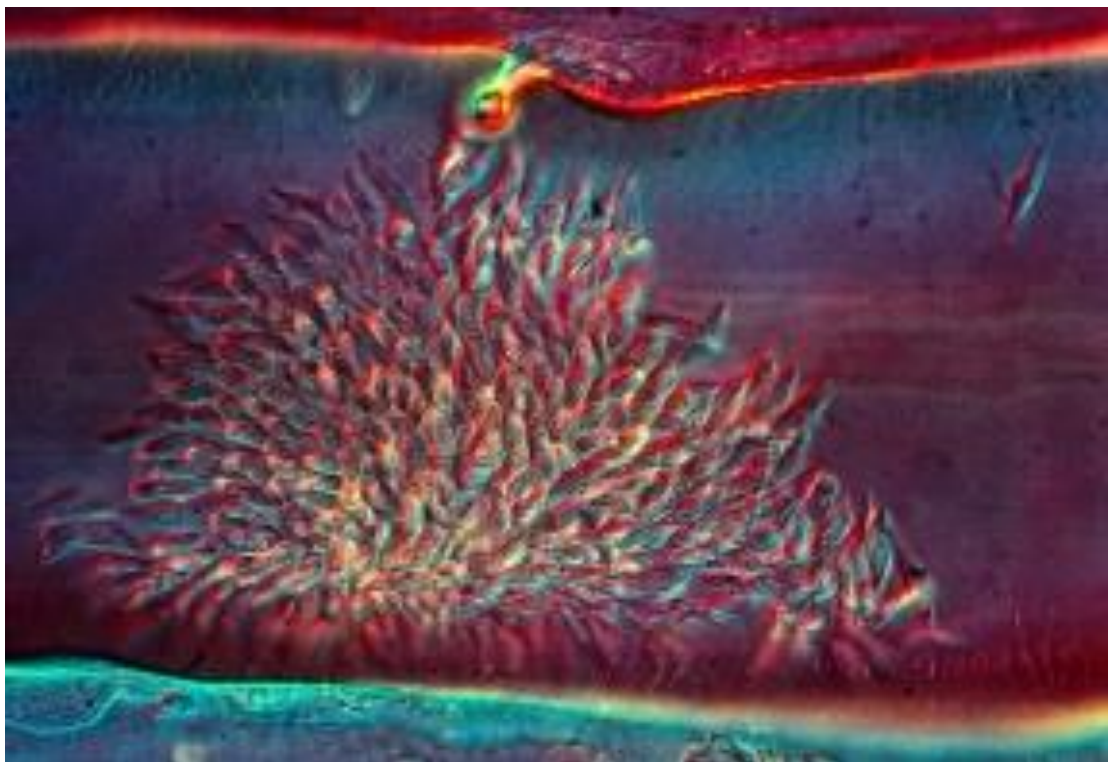
Tsetse Infestation Sub-Saharan Africa 11-12 thousand sq kilometres



1986 Max the First Ndama in East Africa (Embryo Transfer)



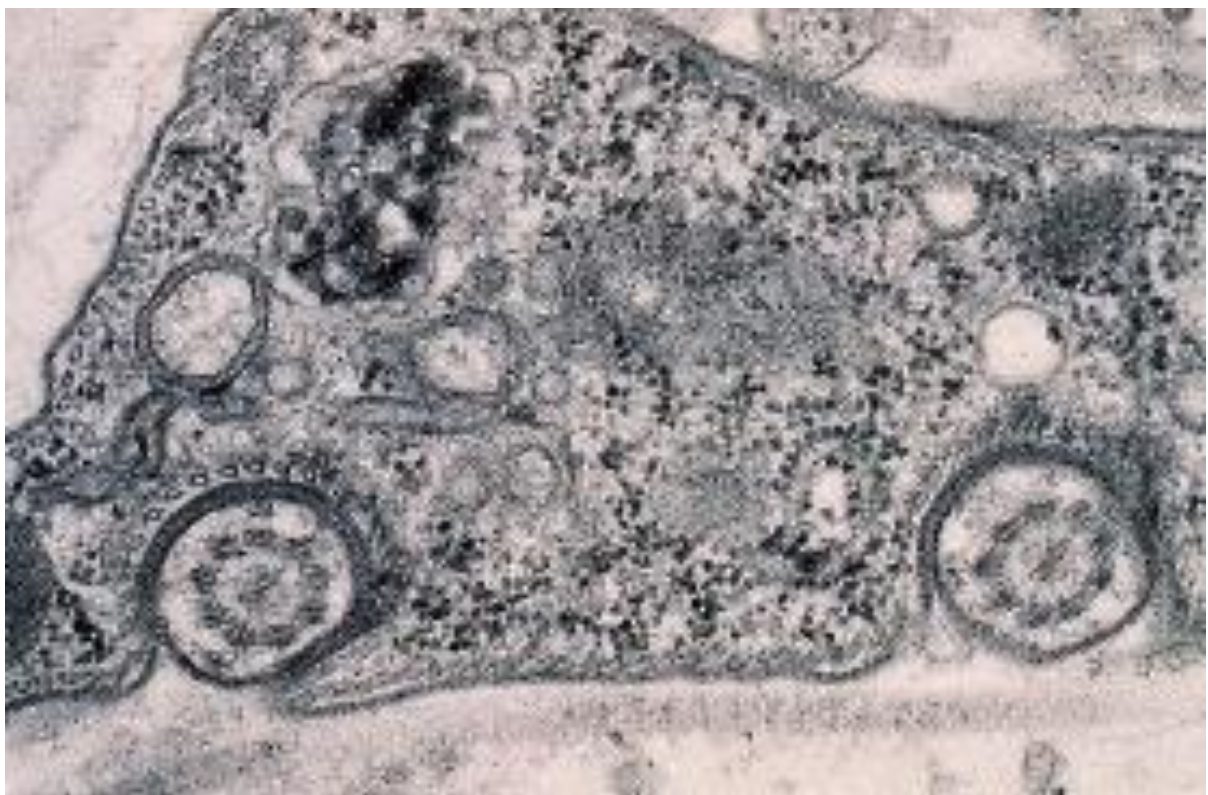
Tsetse Fly



Tsetse Proboscis packed with metacyclic Trypanosomes about to inoculate host



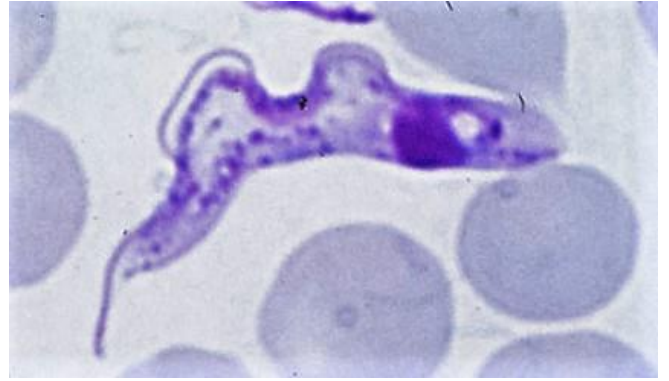
Trypanosoma congolense Chancres in Bovine



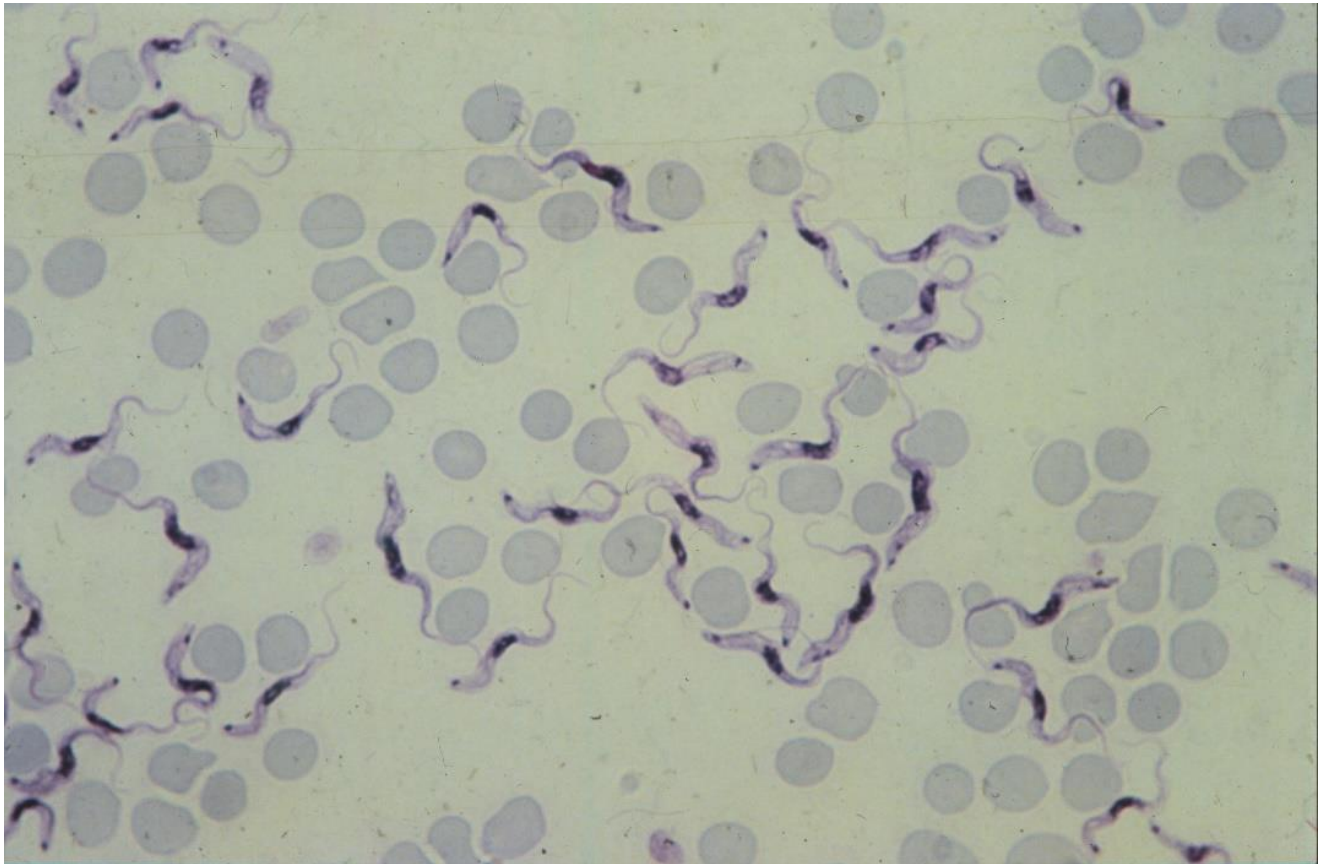
Electron Microscope: *Trypanosoma brucei* The Vehicle of Destruction



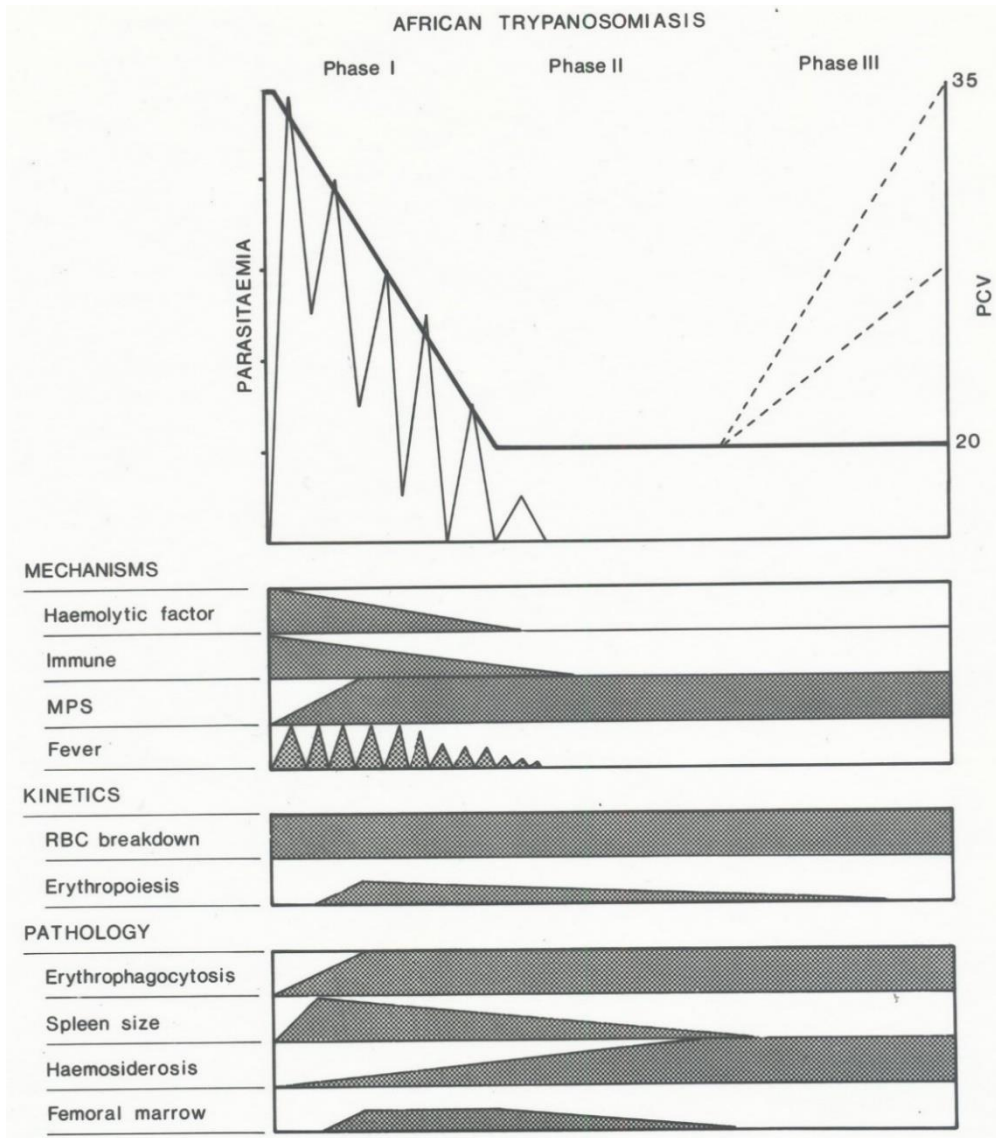
Trypanosoma congolense



Trypanosoma brucei



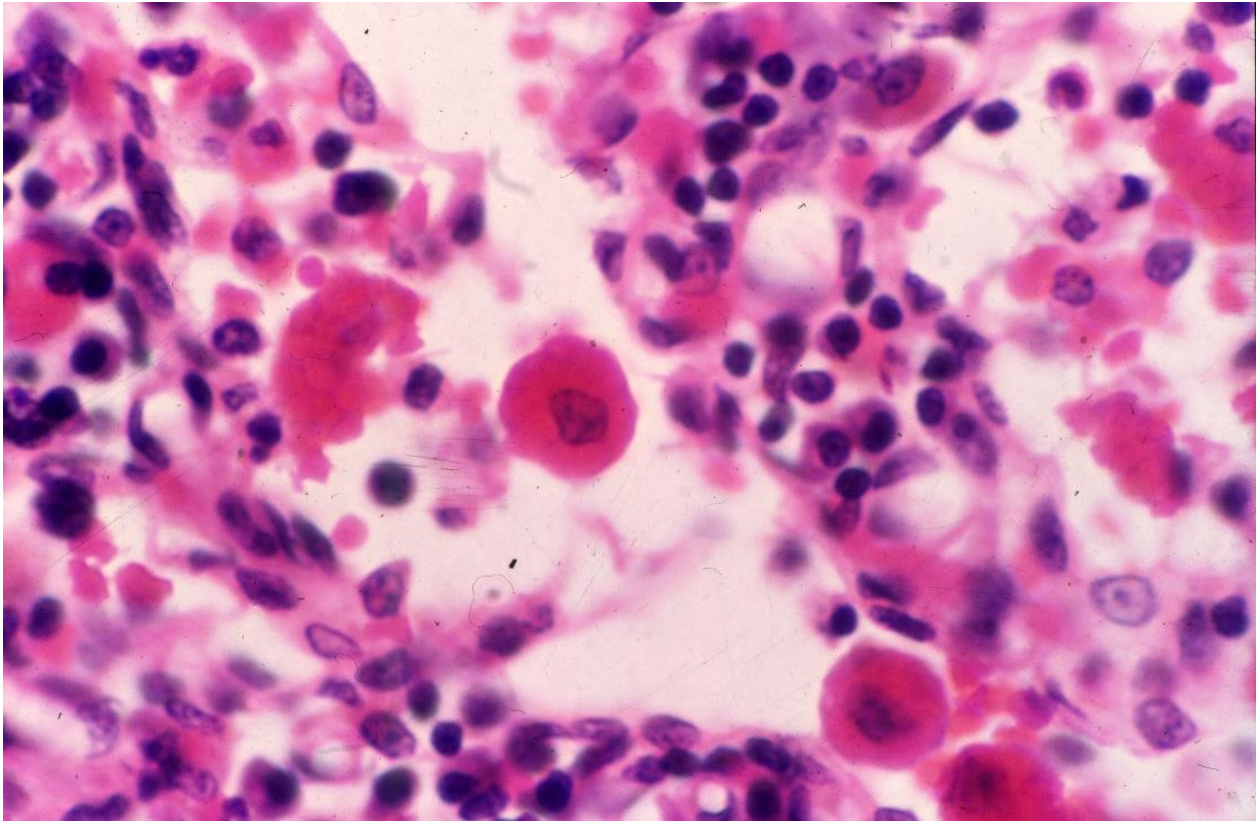
Trypanosoma vivax



Kinetics of Anaemia



Pallor of Mucous Membranes in infected Bovine



Erythrophagocytosis in Spleen of *T. congolense* infected Bovine



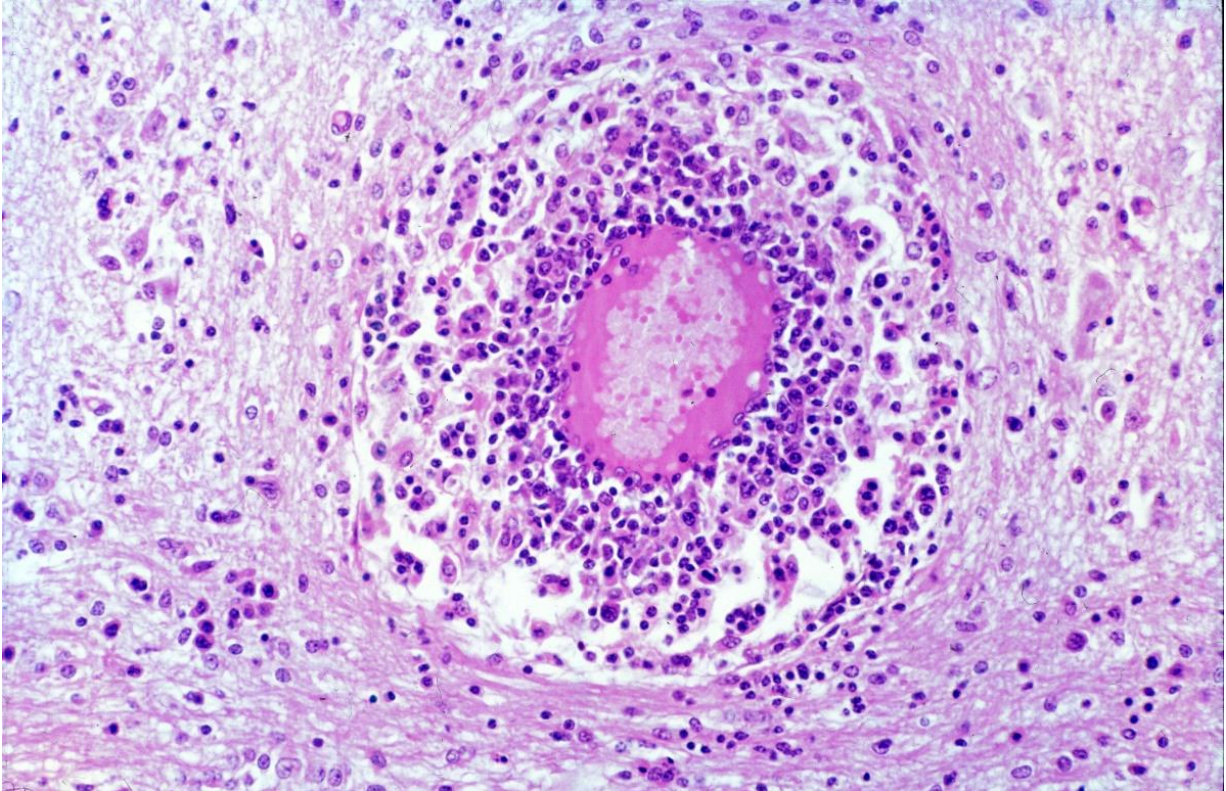
Splenomegaly in Trypanosome-infected Bovine



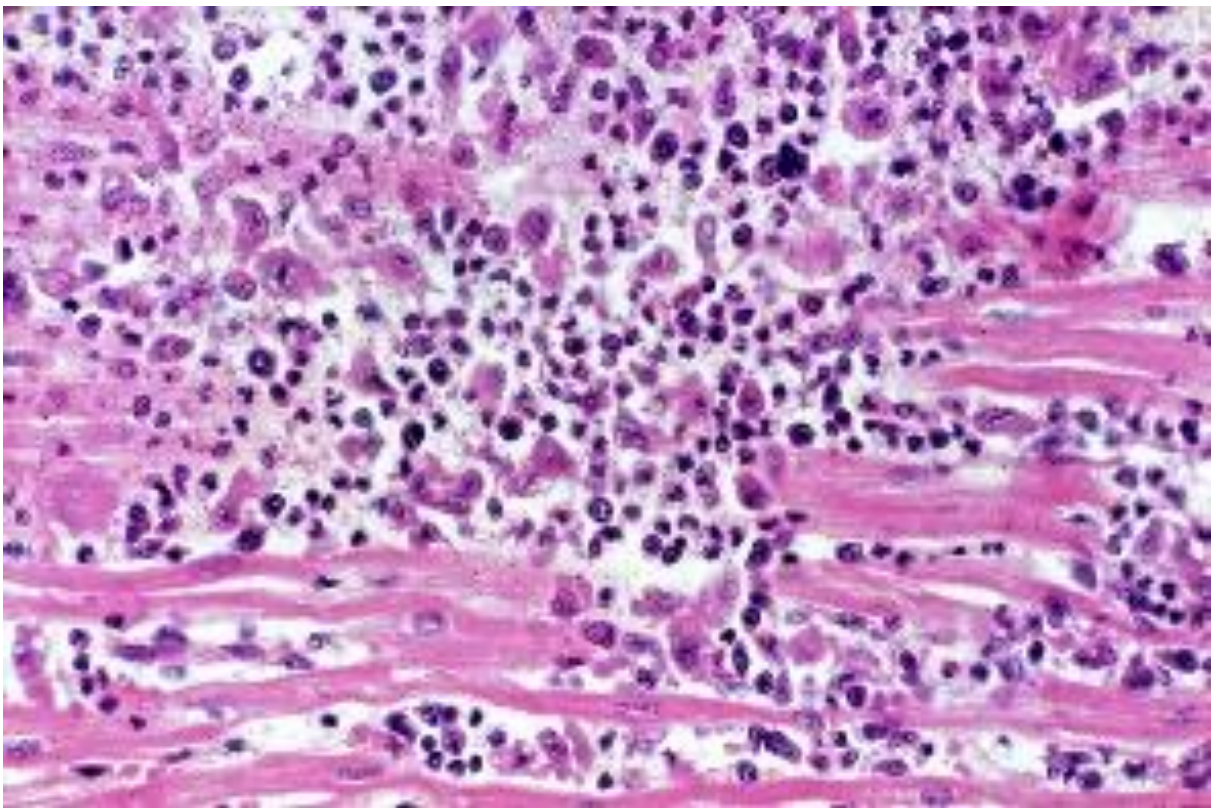
Trypanosoma congolense infected emaciated Zebu



NDama Yearling with Sleeping Sickness

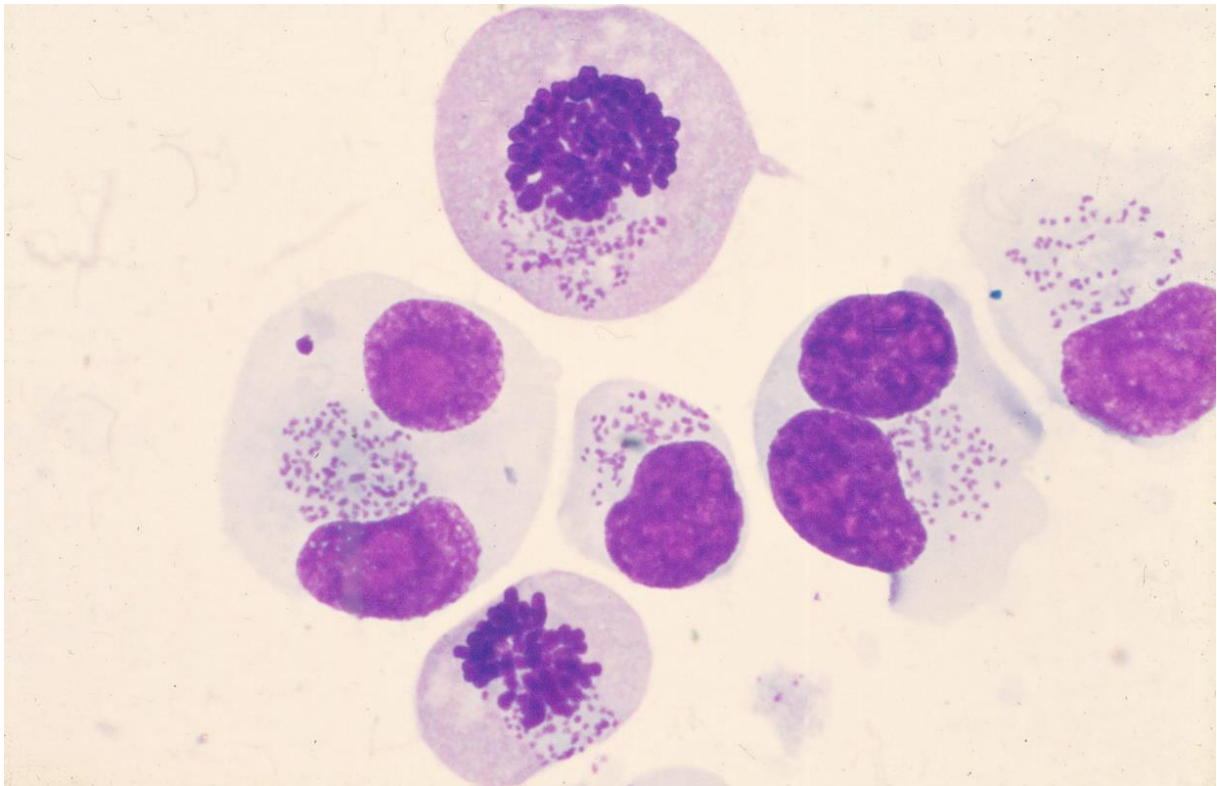


Trypanosoma brucei induced Meningoencephalitis

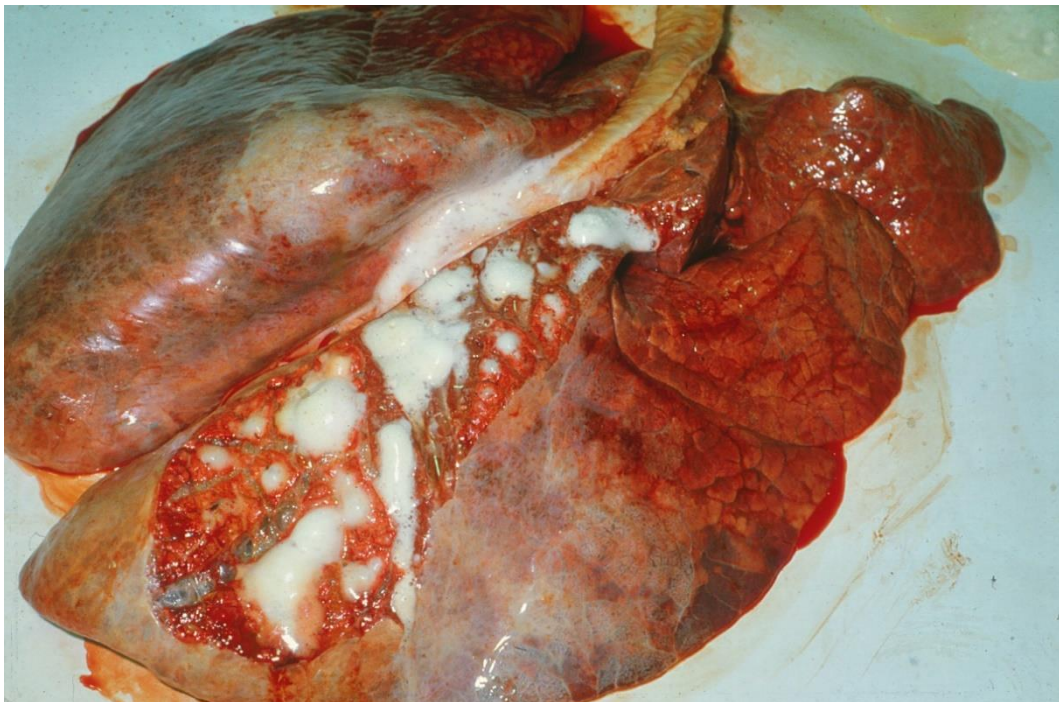


Trypanosoma brucei induced Myocarditis

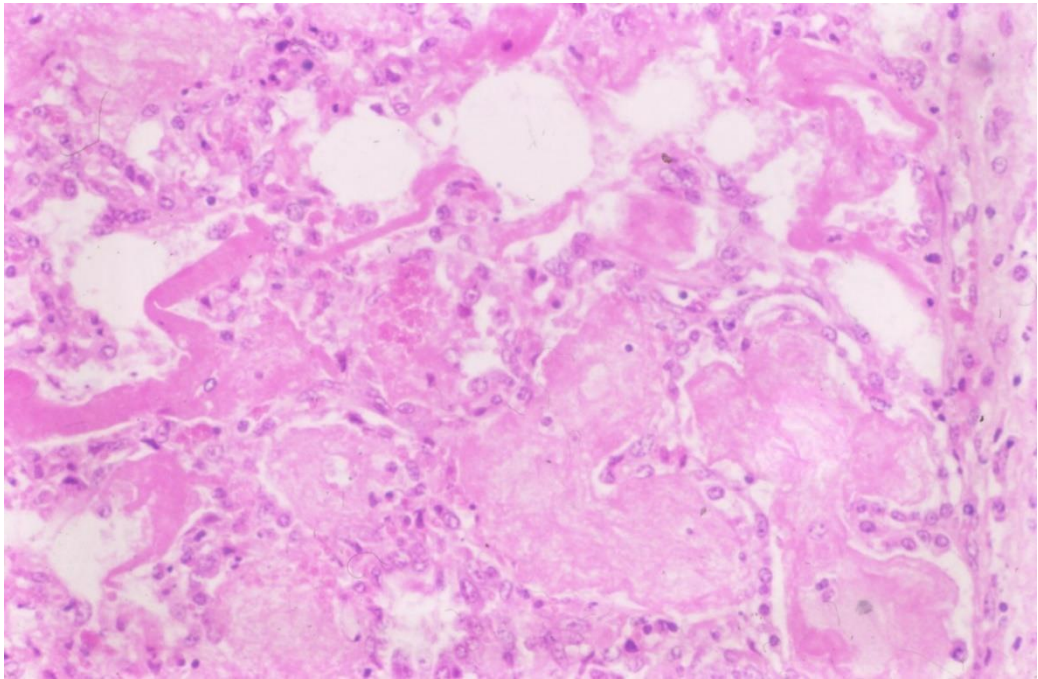
Bovine Theileriosis



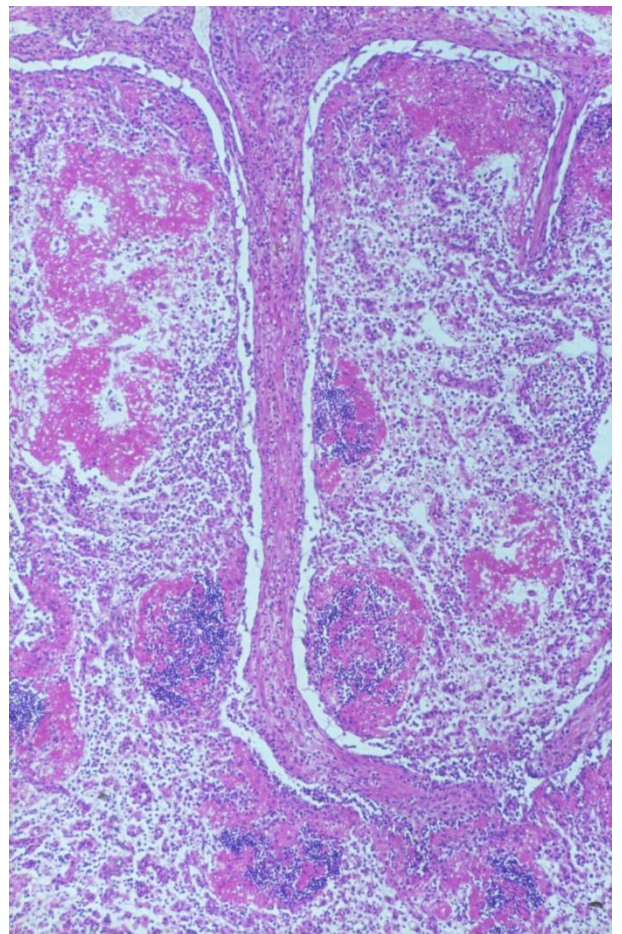
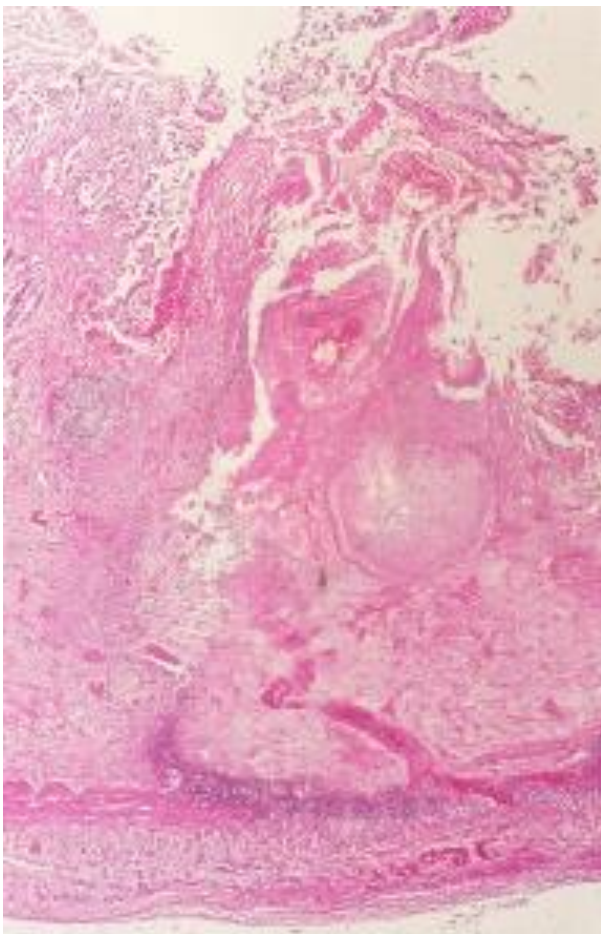
Theileria parva microschizonts



East Coast Fever: Severe Pulmonary Oedema in Zebu

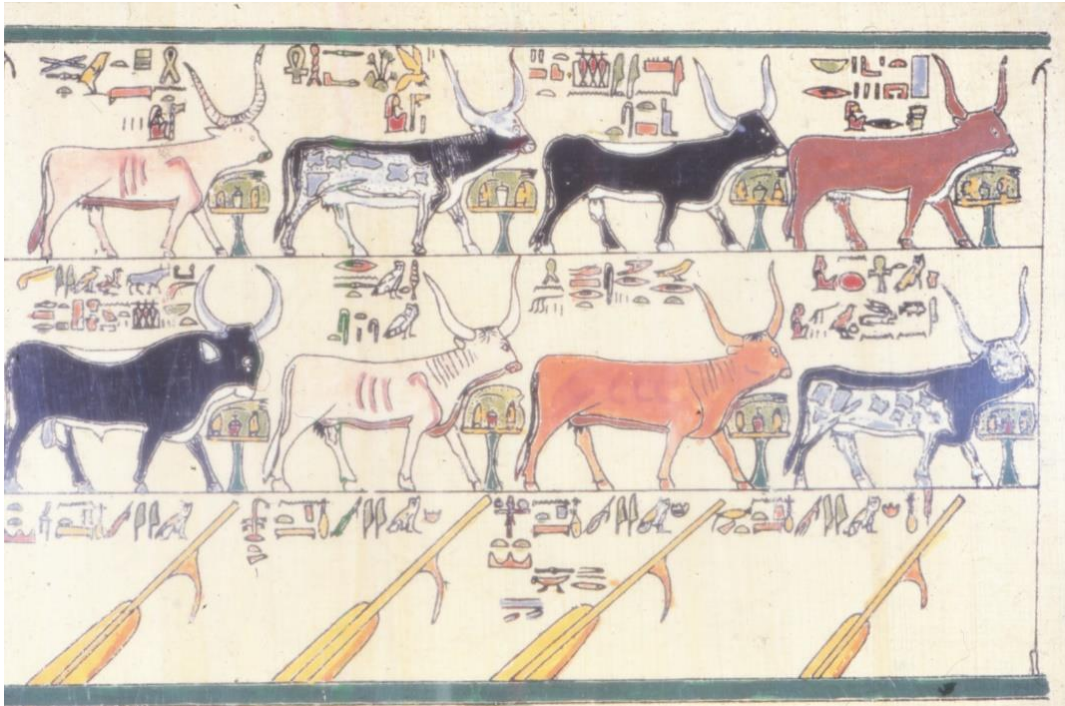


East Coast Fever: Pulmonary Hyalination and Oedema

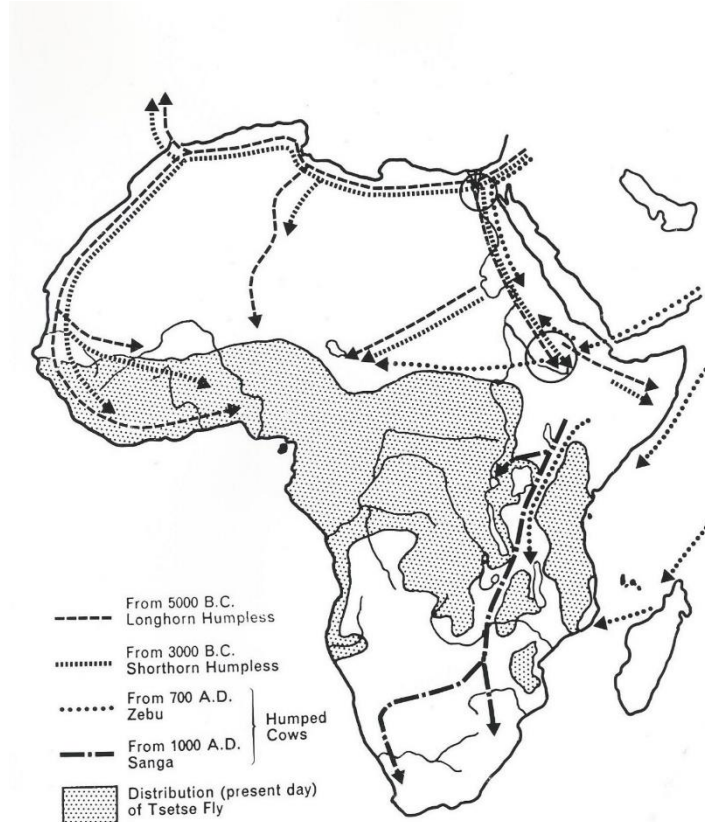


East Coast Fever: Small Intestine and Lymph Node Obliterated

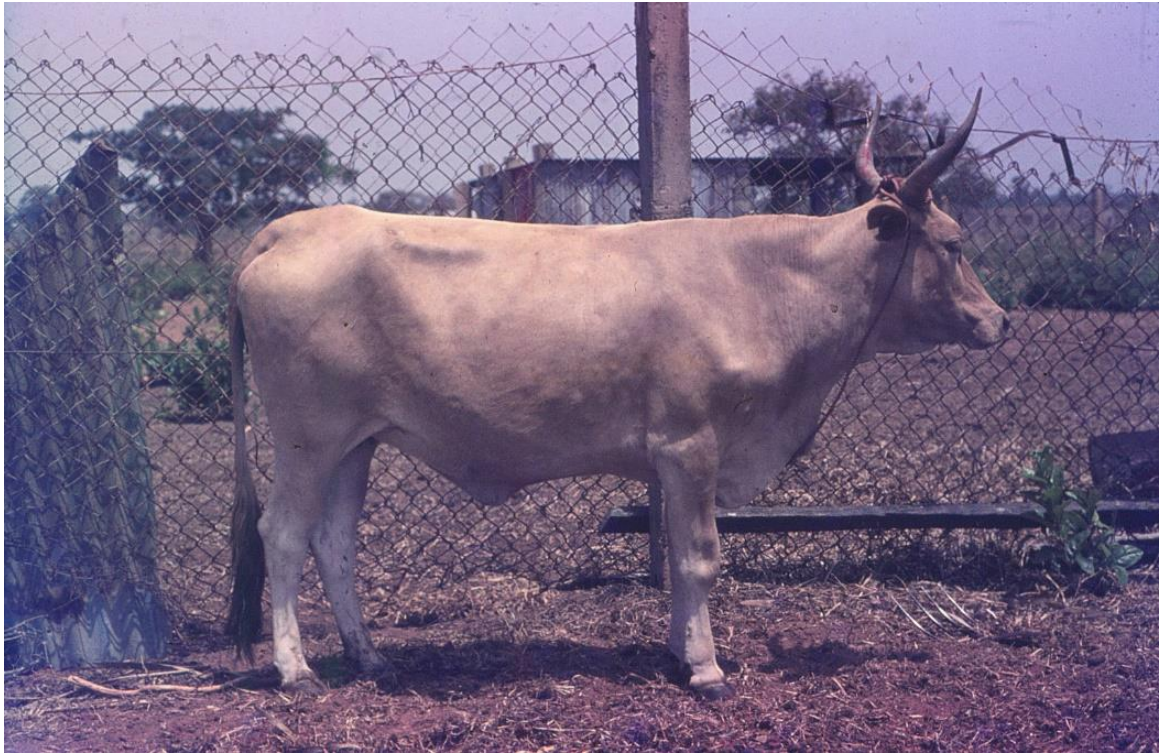
3. Genetic Resistance: Trypanotolerance



Bos Taurus Hamitic Longhorns Cave Paintings 5000BC



Origin of NDama



1973 Ndama Cow

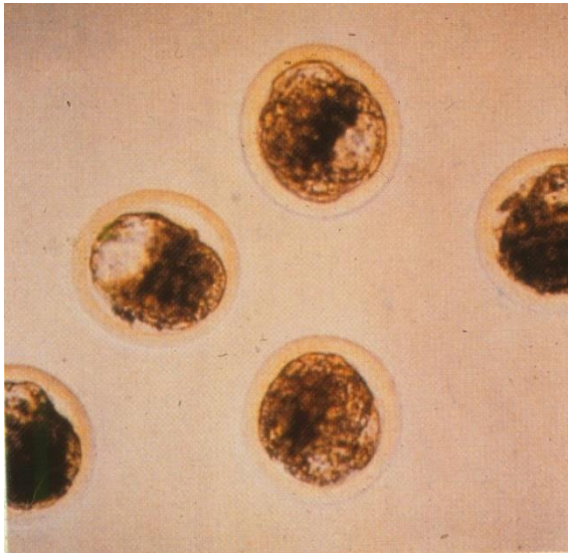
Hamitic Longhorn Cattle migrated from North and West Africa across the Iberian Peninsula to Europe and the Americas; they are represented in Scotland by the West Highland, in Brazil by the Franquiro, and in Mexico and Southwestern USA by the Texas Longhorn taken by the Portuguese and the Spanish in the 1500s.



1973 Ndama Bull



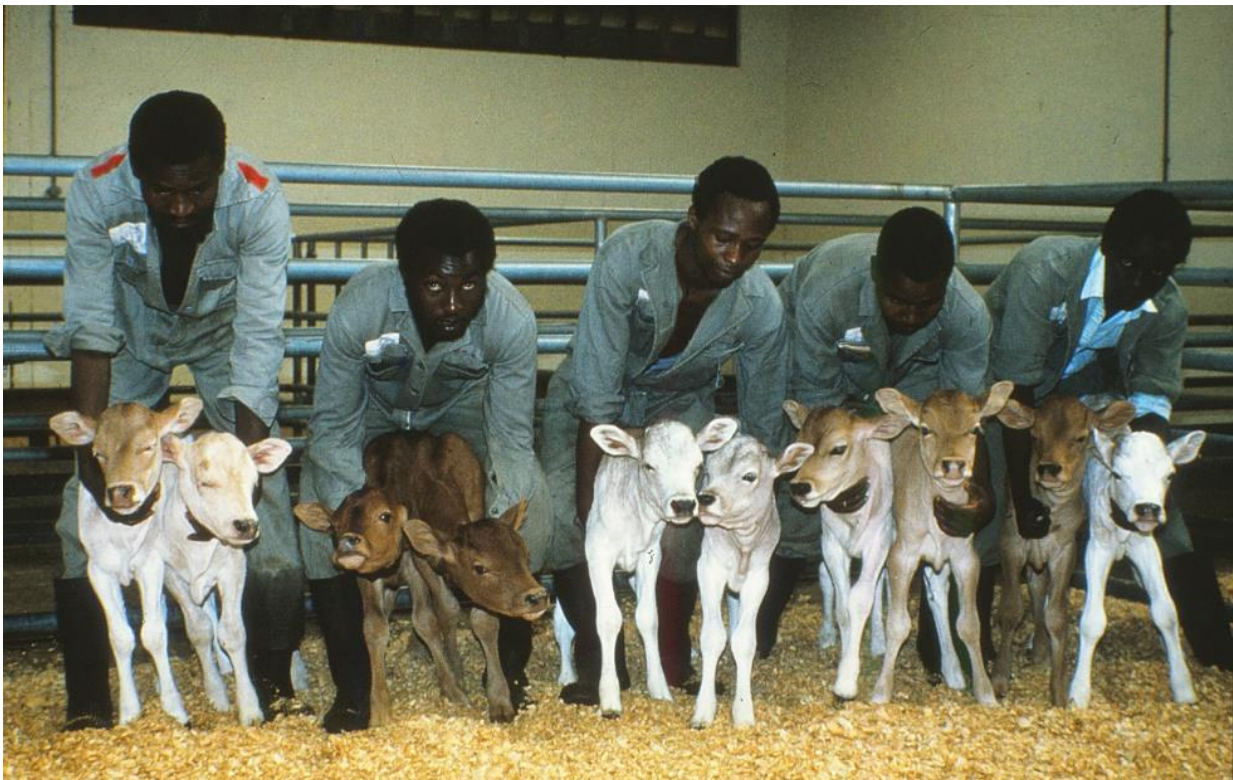
West Highland Bull Fort William



NDama Embryos



1984 NDama Calf (Max) Surogate
Boran Mother



1984 ILRAD: 10 NDama Embryo Calves (5 Males 5 Females)



1986 ILRAD: NDama Embryo Bull



1986 ILRAD: Ndama Embryo Heifers



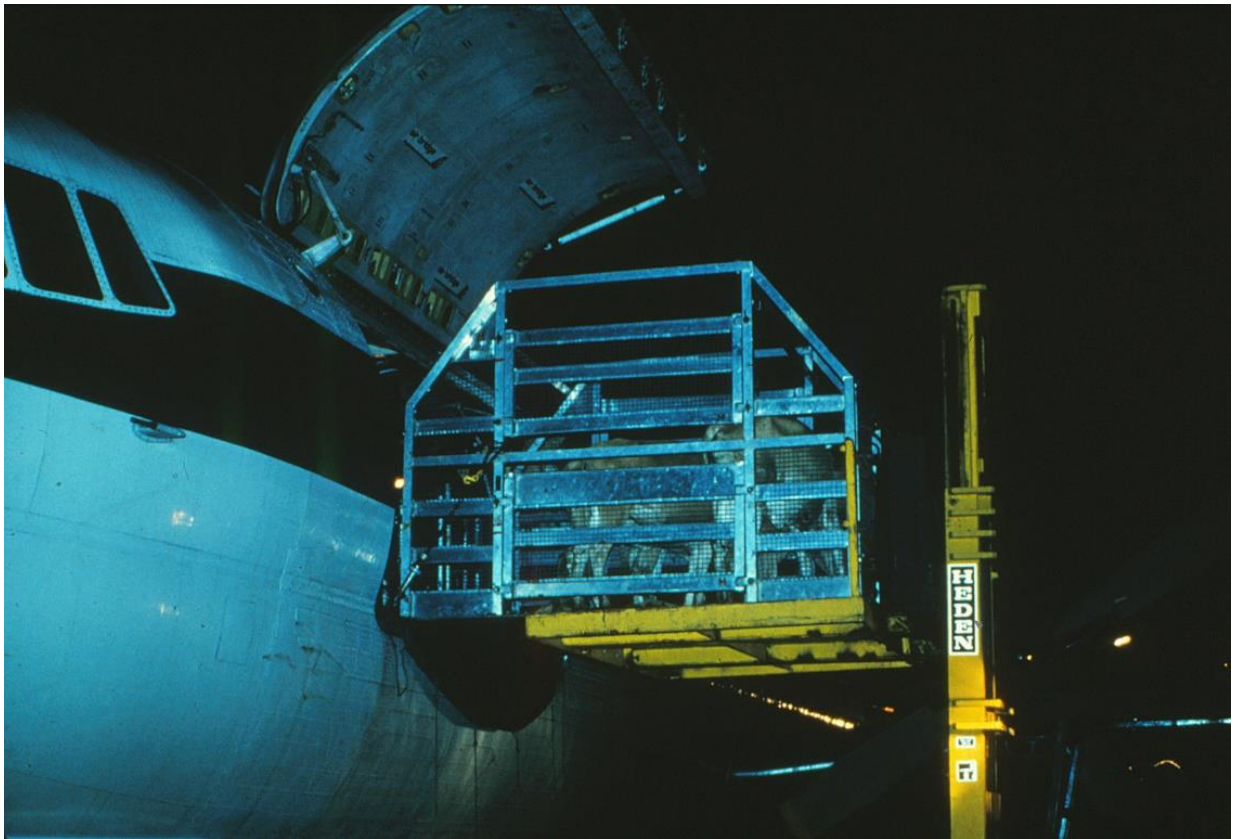
1985 Exporting NDama from The Gambia



1985 Exportation by Sea to Central Africa



1986 Exportation by Air to Central Africa: Ian and Bakary Sangyang



1986 Exportation by Air

Genetic Resistance in Sheep to Helminthiasis



Red Maasai: Increased Resistance to Helminths



Scottish Blackface: Increased Resistance to Helminths

4. Epidemiology, Bioinformatics and Diagnostics

Kilifi Plantations Mombasa



1974 2/3 Sahiwal 1/3 Ayrshire



1974 1/3 Sahiwal 2/3 Ayrshire

Mkwaja Ranch Tanzania



1974 Boran x Zebu (80%)



1974 Blood Sampling

Muhaka Village District



1983 Bleeding Zebu



1983 Zebu Herd in Tsetse-infested Bush

Diagnosis Smart Point-of-Care Technology



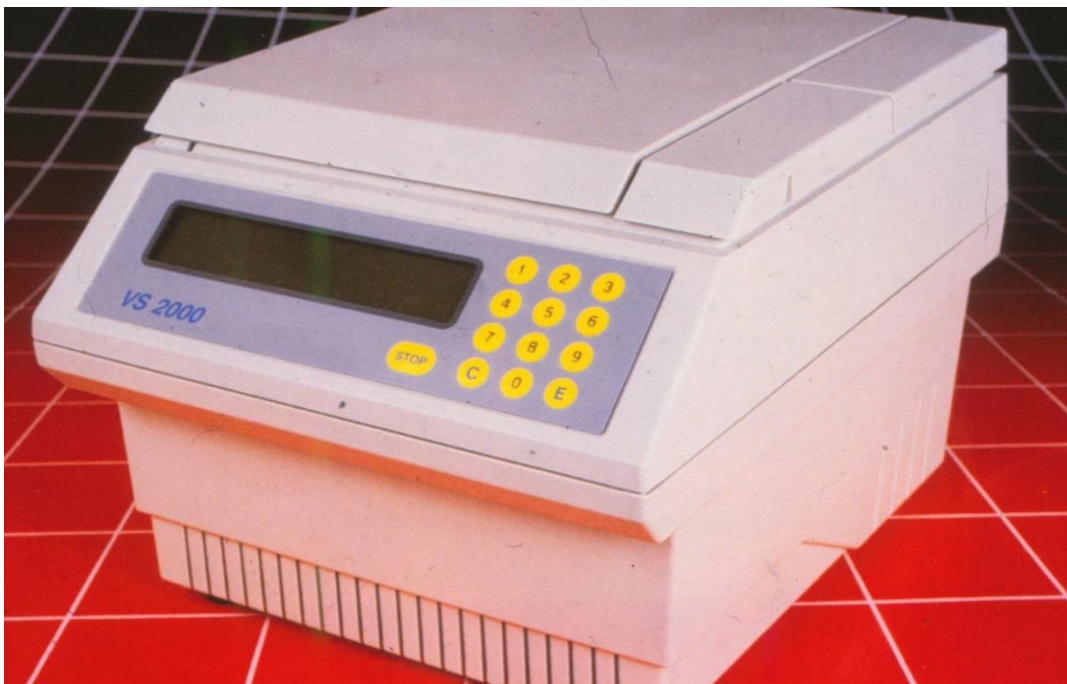
1988 VetTest 8008



1989 Our VetTest Laboratory: June Downs and Me



1989 VetTest 8008 Clinical Biochemical Analyser launched December at The Farmers Club London by MM

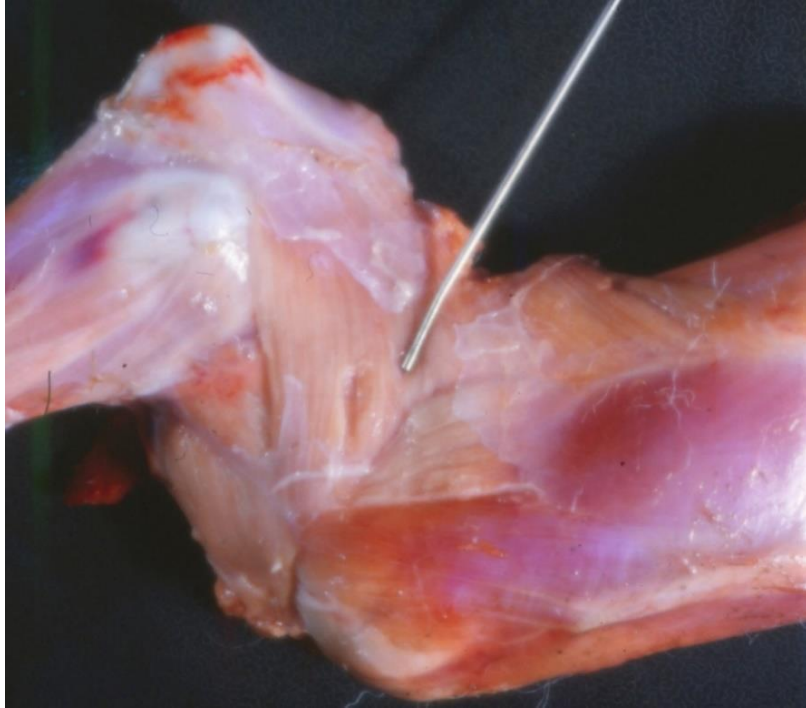


1992 VS 2000 Haematology Analyser

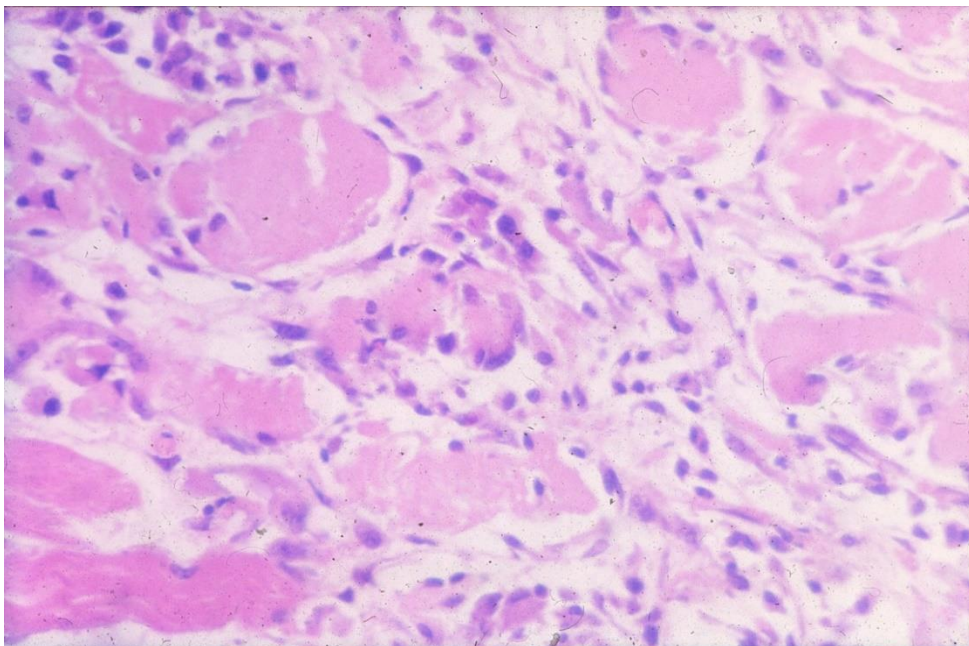
Other Research Activities

Kenya 1963-65

Muscular Dystrophy

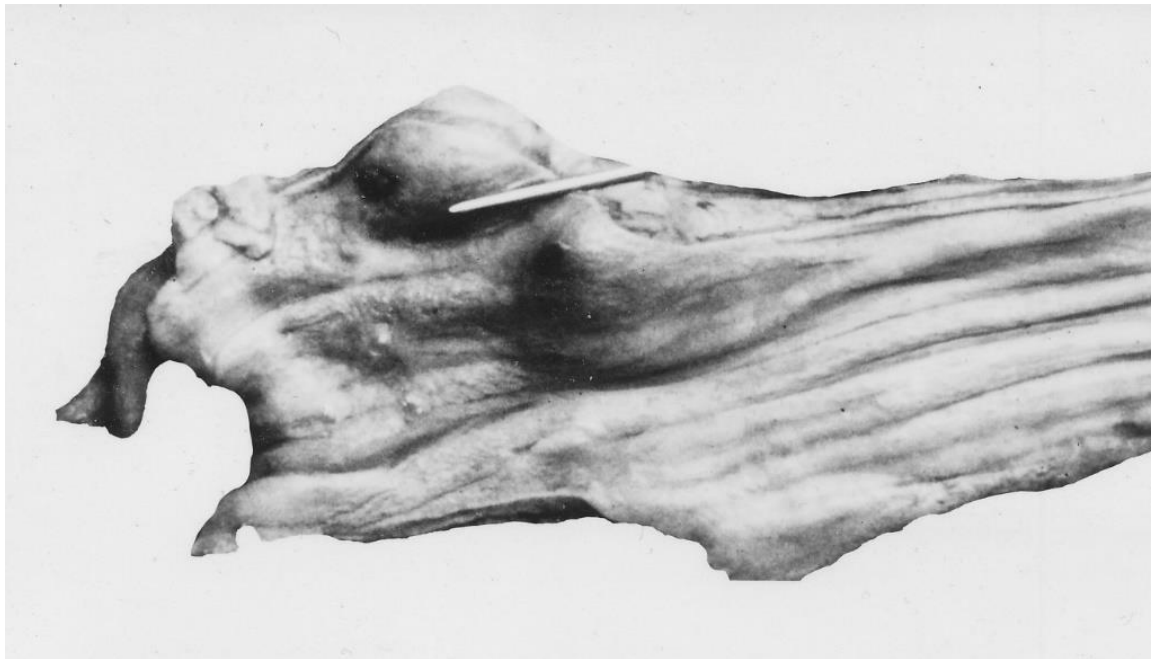


White Muscle Disease Hunter's Antelope



Muscular Dystrophy: Hyaline degeneration with Sarcolemma Cell proliferation

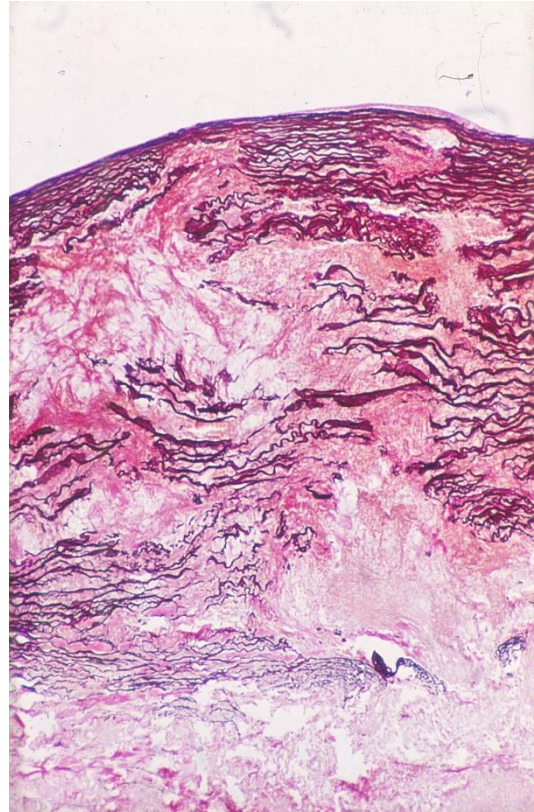
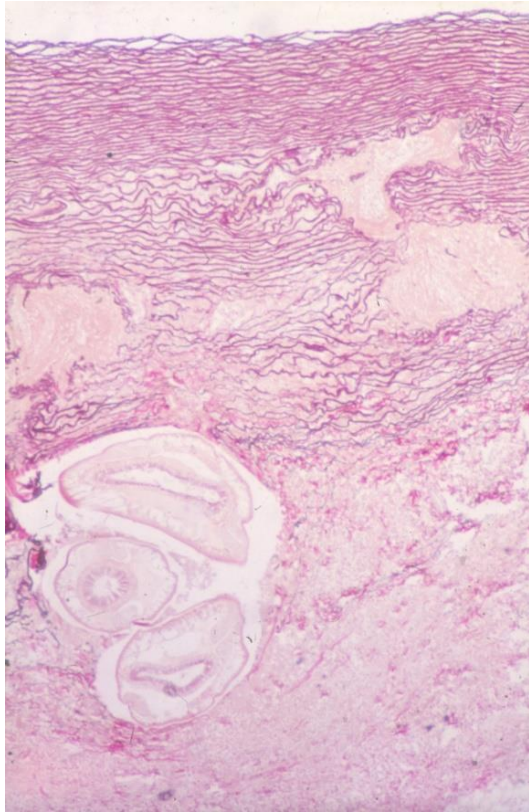
Spirocercosis



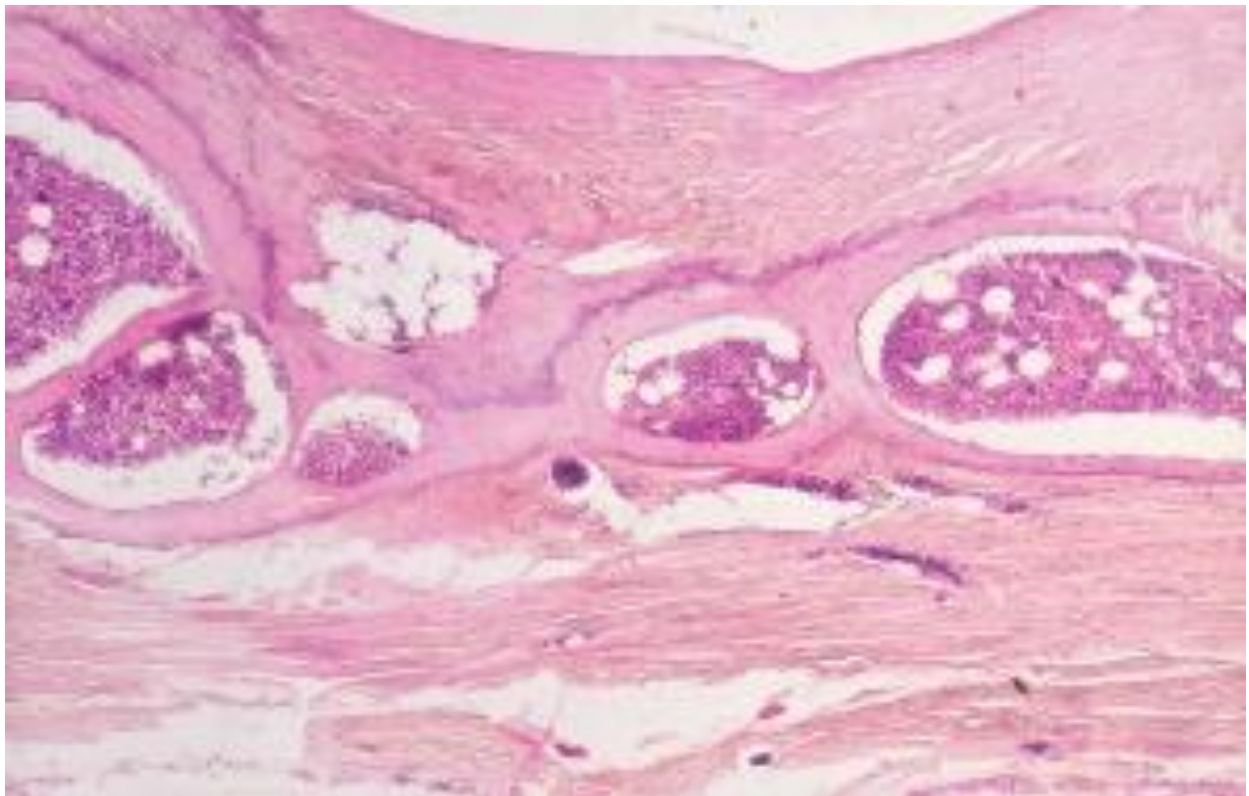
Spirocerca lupi nodules in oesophagus of Dog



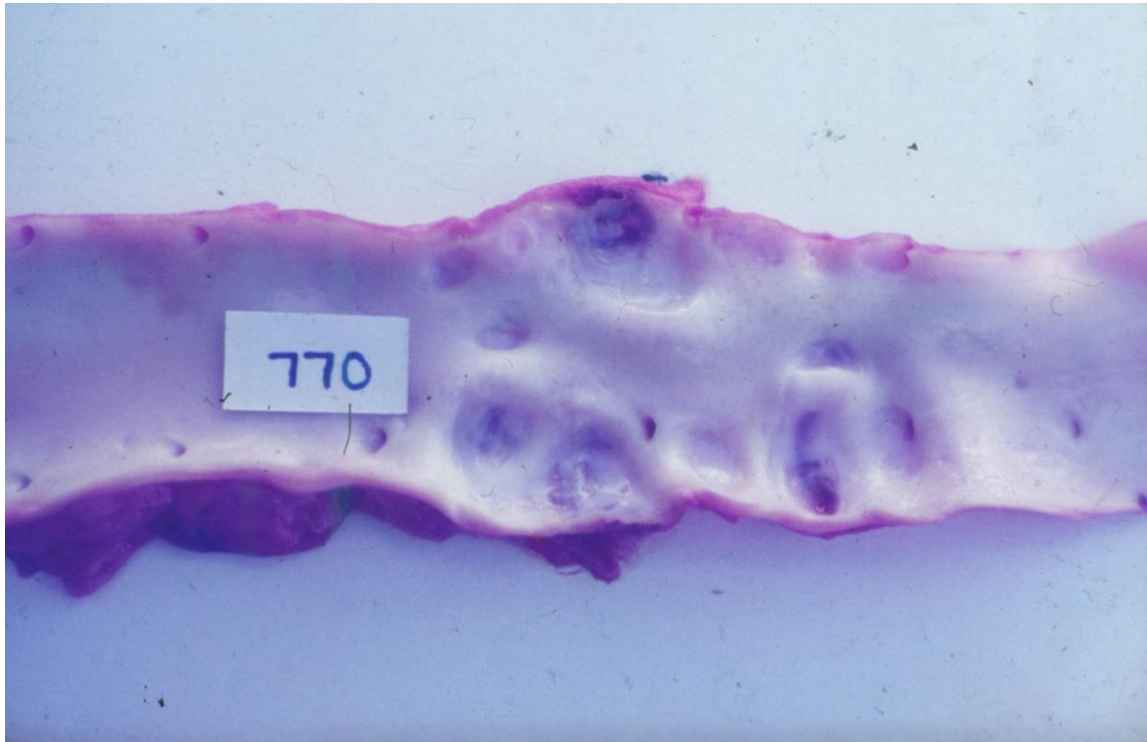
Spirocerca lupi associated Oesophageal Osteogenic Sarcoma



Spiroceca lupi migrating parasite with total destruction of aorta

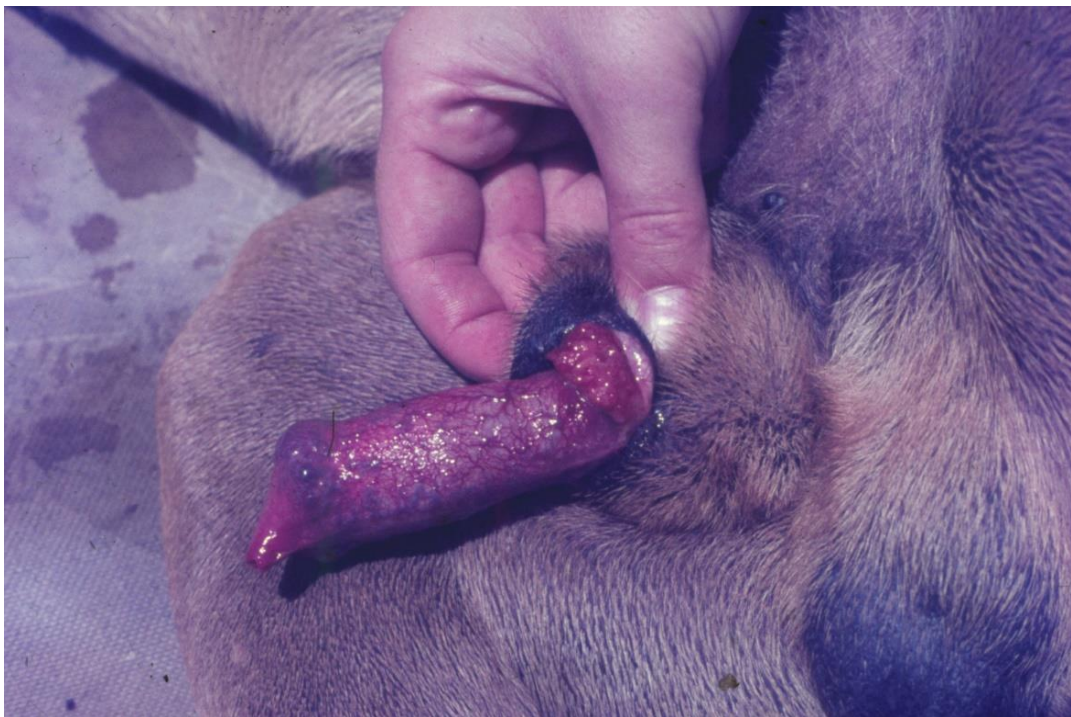


Spirocerca lupi Aorta Extramedullary Haemopoiesis

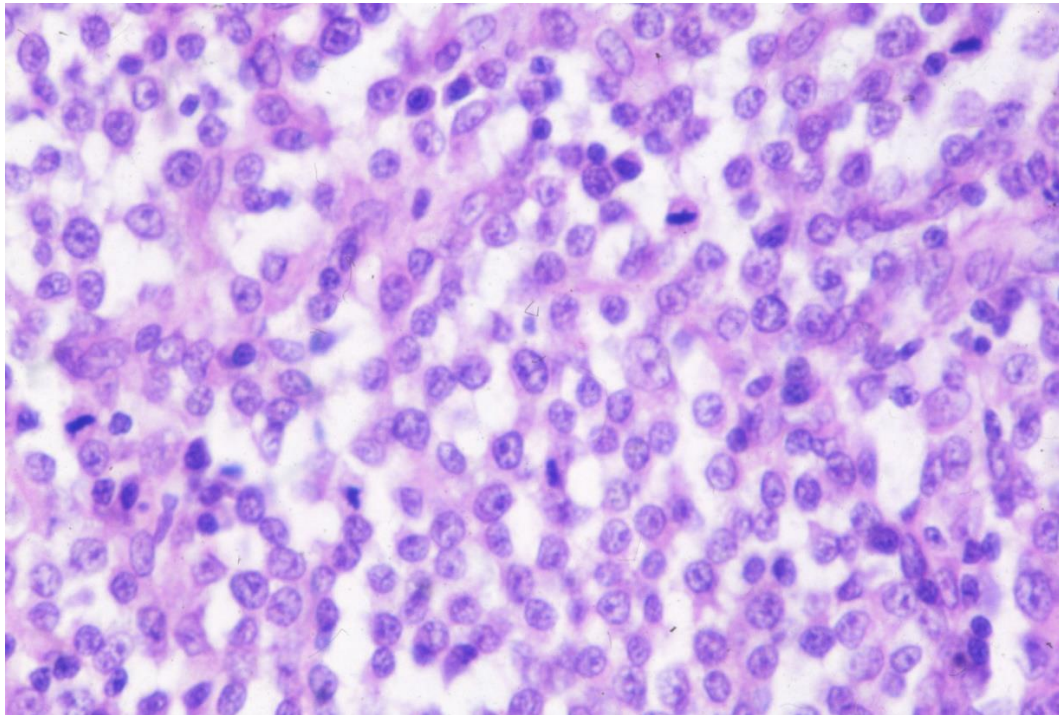


Spirocerca lupi Aortic Aneurysms

Transmissible Venereal Granuloma in Dog

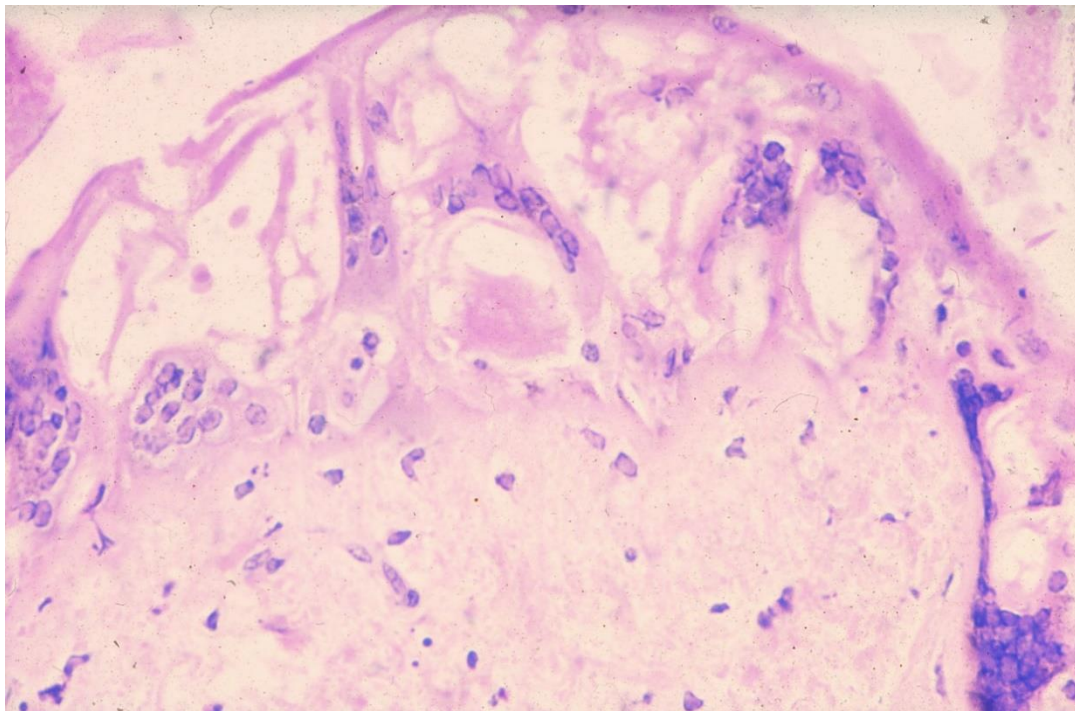


Tumour on Glans Penis of Dog

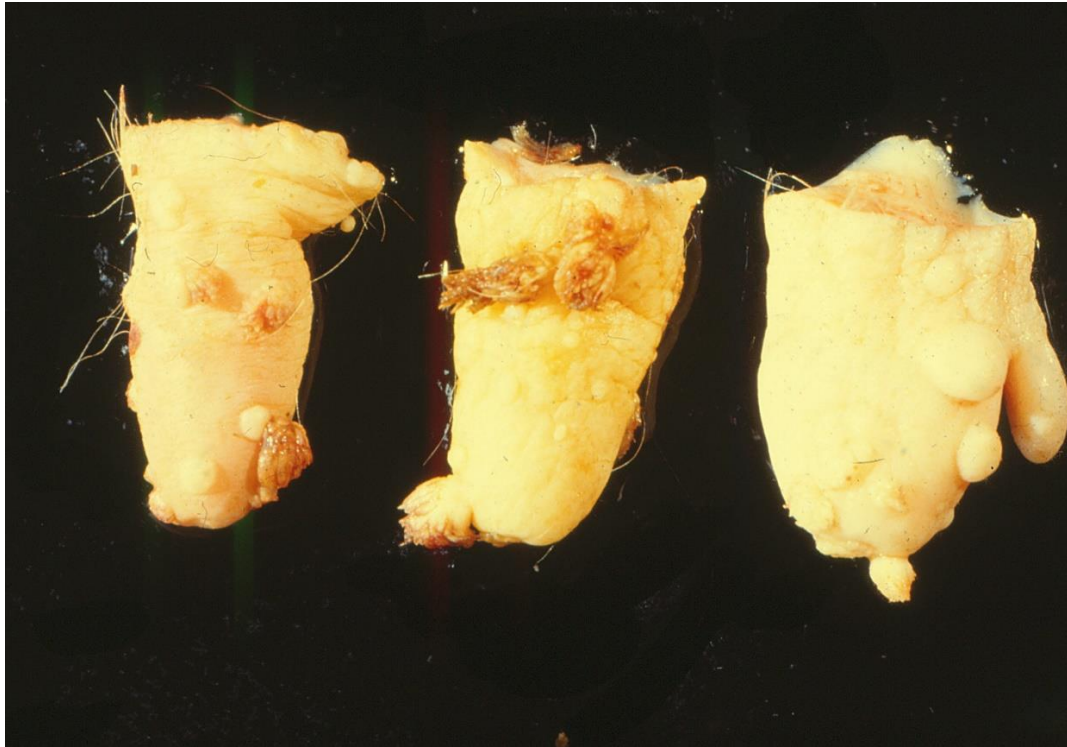


Transmissible Venereal Tumour: Sheets of rapidly dividing undifferentiated cells with large nucleoli

Bovine Virus Infections



Bovine Herpes Mammillitis: Note Intranuclear Inclusion Bodies



1964 Bovine Viral Wart Papillomas at Limuru led to Human Cervical Cancer Vaccine



Bovine Papular Stomatitis

XIII. PUBLICATIONS

(Archives XXI:5 SPRING/BOX FILES)

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5. Major Papers Presented

Over 300 papers presented at National and International Meetings and Conferences

These include:

- Symposium on Ostertagiasis. Prince Leopold Institute for Tropical Medicine. Antwerp, 1967. “The pathogenesis of bovine ostertagiasis”.
- Rockefeller Foundation/ILRAD Symposium on African trypanosomiasis. Villa Serbelloni, Como, 1972. Pathology of African trypanosomiasis.
- World Health Organisation Symposium, Mexico City, 1973. Comparison between the pathology of African trypanosomiasis and Chagas disease (**XIII:4.1**).
- Second International Conference on Immunology. Plenary Session. ‘The pathology of African trypanosomiasis’. Brighton, 1974 (**XIII:2.14**).
- British Society for Parasitology. Guest Speaker at Symposium on Pathogenic processes in parasitic infections. “The pathology of fascioliasis with particular reference to hepatic fibrosis”. London, 1974 (**XIII:2.15**).
- National Council for Scientific Research. ‘Prospects on new methods for the control of animal African trypanosomiasis’. Lusaka, Zambia, 1978 (**XIII:3.13**).

- Plenary Lecture on Pathology and Pathogenesis of Human African Trypanosomiasis on behalf of WHO at Chagas Centenary Symposium. Rio de Janeiro, 1979.
- Jansen Symposium. The Third International Symposium on ‘Biochemistry of Parasites and host-parasite relationships’, Beerse, Belgium, 1980 (**XIII:2.24**).
- Infectious Diseases Society of America. 21st Annual Meeting, Las Vegas, USA. ‘Genetic resistance to African trypanosomiasis’, 1983.

Guest Speaker invited by Dr Abe Braude President of the Society and Charles Davis, Professor of Medicine and Pathology, at San Diego Medical Center, University of Southern California. The paper was presented at the Las Vegas Hilton Hotel to an audience of over 5000. This stage was made famous by Elvis Presley.

- British-Scandinavian Joint Meeting in Tropical Medicine and Parasitology, Copenhagen, 1985. “Novel approaches for the control of African trypanosomiasis: has Nature provided the answer?”
- American Association of Veterinary Parasitologists, Atlanta, USA, 1986. Animal Health: has Nature provided the answer? (**XIII:6.20**).
- American Veterinary Medical Association, Atlanta, USA, 1986. Development of vaccines against bovine trypanosomes (**XIII:6.21**).
- The Wellcome Trust Lecture; Association of Veterinary Teachers and Research Workers, Scarborough, 1987. “African trypanosomiasis: will research triumph?”.
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- The Sir William Weipers Memorial Lecture, Glasgow, 1991. “Out of Africa. Genetic Resistance: Nature’s contribution to a global problem”.
- The WAAVP/Pfizer Award Lecture, Sun City, South Africa, 1997. “Parasites, Predators, Places and People I have known - a Great Adventure” (**XIII:1.180**).

6. Published Abstracts

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43. Katunguka-Rwakishaya, E. Holmes, P.H. and Murray, Max (1993). The pathophysiology of ovine trypanosomiasis caused by *Trypanosoma congolense*: Ferrokinetic and erythrocyte survival studies. The International Scientific Council for Trypanosomiasis Research and Control. 22nd Meeting, Kampala, Uganda, 1993. OAU/STRC. Publication No.117. p.5.10.
44. Katunguka-Rwakashaya, E., Holmes, P.H., Parkins, J.J., Fishwick, G. and Murray, Max (1993). The influence of energy intake on the pathophysiology of experimental *Trypanosoma congolense* infection in sheep. International Scientific Council for Trypanosomiasis Research and Control. 22nd Meeting, Kampala, Uganda, 1993. OAU/STRC. Publication No.117. p.168. p.5.15.
45. Katunguka-Rwakishaya, E., Holmes, P.H., Parkins, J.J., Fishwick, G. and Murray, Max (1993). The pathophysiology of ovine trypanosomiasis: influence of dietary protein on body weight, anaemia and lipid metabolism. International Scientific Council for Trypanosomiasis Research and Control. 22nd Meeting. Kampala, Uganda, 1993. OAU/STRC. Publication No.117. p.169. P.5.16.
46. Mwangi, E.K., Stevenson, P., Gettinby, G., Nantulya, V. and Murray, Max (1993). Comparison of parasitological techniques, antibody and antigen detection enzyme immunoassays in the diagnosis of trypanosome infections in cattle. The International Scientific Council for Trypanosomiasis Research and Control. 22nd Meeting, Kampala, Uganda. 1993. OAU/STRC. Publication No.117. p.2.7.
47. Mwangi, E.K., Stevenson, P., Gettinby, G. and Murray, Max (1993). Variation in susceptibility to tsetse-transmitted trypanosomiasis among *Bos indicus* cattle breeds in East Africa. The International Scientific Council for Trypanosomiasis Research and Control. 22nd Meeting, Kampala, Uganda. 1993. OAU/STRC. Publication No.117. p.5.2.
48. Winstanley, F.P., Holmes, P.H., Katunguka-Rwakishaya, E., Parkins, J.J., Fishwick, G. and Murray, Max (1993). Tumour necrosis alpha receptor activity on peripheral blood leucocytes of sheep infected with *Trypanosoma congolense* and allowed either a high or a low energy intake. International Scientific Council for Trypanosomiasis Research and

Control. 22nd Meeting. Kampala, Uganda, 1993. OAU/STRC. Publication No.117. p.170. P.5.17.

49. Burke, J.M., Gichuki, C.W., Jennings, F.W., Rodgers, J., Hunter, C.A. and Murray, Max (1994). What role do astrocytes have in the neuropathogenesis of African trypanosomiasis? The British Society for Parasitology, Bath, 1994. No.104. p.92.
50. Wallace, D.S., Bairden, K., Duncan, J.L., Fishwick, G., Gill, E.M., Holmes, P.H., McKellar, Q.A., Murray, Max, Parkins, J.J. and Stear, M.J. (1994). The effect of urea supplementation and feeding level on infection with *Haemonchus contortus* in Hampshire Down sheep. Proceedings of the European Association for Animal Production, Edinburgh, U.K. p. 253
51. Burke, J.M., Gichuki, C.W., Jennings, F.W., Kennedy, P.G.E. and Murray, Max (1995). The role of astrocytes in the neuropathogenesis of African trypanosomiasis. The British Society for Parasitology, Edinburgh, 1995.
52. Burke, J.M., Gichuki, C.W., Jennings, F.W., Rodgers, J., Hunter, C.A., Kennedy, P.G.E. and Murray, Max (1995). Do astrocytes have a role in the neuropathogenesis of African trypanosomiasis? Trypanosomiasis and Leishmaniasis Seminar, Glasgow, 1995. Abstract 13, No.13.
53. Gichuki, C.W., Burke, J.M., Jennings, F.W., Sommer, I.U., Kennedy, P.G.E. and Murray, Max (1995). The effect of eflornithine on the pathological changes in post-treatment reactive encephalitis in *T.b.brucei* infected mice. International Scientific Council for Trypanosomiasis Research and Control. 23rd Meeting. Banjul, The Gambia, 1995 OAU/STRC. Publication No.118. Abstract 405, p.5.
54. Gichuki, C.W., Sommer, I.U., Burke, J.M., Jennings, F.W., Murray, Max and Kennedy, P.G.E. (1995). The interaction between astrocytes and trypanosomes: an *in vitro* study. International Scientific Council for Trypanosomiasis Research and Control. 23rd Meeting. Banjul, The Gambia, 1995 OAU/STRC. Publication No.118. Abstract 410, p.10.
55. Gichuki, C.W., Burke, J.M., Jennings, F.W., Sommer, I.U., Kennedy, P.G.E. and Murray, Max (1995). The effect of eflornithine on the

- pathological changes in post-treatment reactive encephalitis in *Trypanosoma brucei brucei* infected mice. Proceedings of 16th African Health Sciences Congress, Nairobi, Kenya, 1995.
56. Gichuki, C.W., Sommer, I.U., Burke, J.M., Jennings, F.W., Murray, Max and Kennedy, P.G.E. (1995). The effect of trypanosomes, whole trypanosome lysate and membrane-bound form of variable surface glycoprotein on *in vitro* cultures of astrocytes. Proceedings of 16th African Health Sciences Congress, Nairobi, Kenya, 1995.
 57. Katunguka-Rwakishaya, E., Murray, Max and Holmes, P.H. (1995). Observations on the susceptibility of three breeds of Ugandan goats to experimental infection with *Trypanosoma congolense*. International Scientific Council for Trypanosomiasis Research and Control. 23rd Meeting. Banjul, The Gambia, 1995 OAU/STRC. Publication No.118. Abstract 505, p.36.
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 59. Katunguka-Rwakishaya, E., Parkins, J.J., Fishwick, G., Murray, Max and Holmes, P.H. (1995). The pathophysiology of *Trypanosoma congolense* infection in sheep: influence of dietary energy. International Scientific Council for Trypanosomiasis Research and Control. 23rd Meeting. Banjul, The Gambia, 1995 OAU/STRC. Publication No.118. Abstract 523. p.67.
 60. Katunguka-Rwakishaya, E., Murray, Max and Holmes, P.H. (1995). The effect of plane of nutrition on body weight, degree of anaemia and carcass composition of sheep infected with *Trypanosoma congolense*. International Scientific Council for Trypanosomiasis Research and Control. 23rd Meeting. Banjul, The Gambia, 1995 OAU/STRC. Publication No.118. Abstract 528. p.72.
 61. Burke, J.M., Gichuki, C.W., Jennings, F.W., Rodgers, J., Kennedy, P.G.E. and Murray, Max (1996). Astrocytes and the immunopathogenesis of

African trypanosomiasis. The British Society for Parasitology. Bangor, Wales, 1996.

62. Gichuki, C.W., Jennings, F.W., Burke, J.M., Sommer, I.U., Kennedy, P.G.E. and Murray, Max (1996). The effect of eflornithine and azathioprine on astrocyte activation. Proceedings of the fourth KETRI internal review. Nairobi, June, 1995. Publication No. 62. p.33.
63. Gichuki, C.W., Sommer, I.U., Jennings, F.W., Burke, J.M., Kennedy, P.G.E. and Murray, Max (1996). The role of astrocytes in the neuropathogenesis of African trypanosomiasis. Proceedings of the fourth KETRI internal review. Nairobi, June, 1995. Publication No. 62. p.33.
64. Mwangi, E.K., Gettinby, G. and Murray, Max (1996). Tick infestation studies among *Bos indicus* cattle breeds of varying susceptibility to trypanosomiasis. Proceedings of the Fourth KETRI Internal Review. Nairobi, June, 1995. Publication No. 62. pp 9-10.
65. Katunguka-Rwakishaya, E., Parkins, J.J., Fishwick, G., Murray Max (1997). Interaction between trypanosome infection and plane of nutrition. In "Veterinary Parasitology into the 21st Century". World Association for the Advancement of Veterinary Parasitology. 16th Conference, Sun City, South Africa, 1997. Abstract 171. p.46.
66. Murray, Max (1997). Addressing the gaps - what needs to be done. In "Equine epidemiology: HBLB Workshop. Equine Veterinary Journal. **29**, p. 92-97.
67. Mwangi, E.K., Gettinby, G. and Murray, Max (1997). Studies on tick infestation and their consequences among cattle breeds of varying susceptibility to trypanosomosis in Kenya; The Orma Boran, Maasai Zebu, Galana Boran and the Friesian: (a) Natural tick challenge. Proceedings of the Fifth KETRI Internal Review. Kenya, 1996. Publication No.63. pp. 5-6.
68. Mwangi, E.K., Kwena, A.M., Mbogo, S.K., Gettinby, G. and Murray, Max (1997). Seroprevalence of tick-borne diseases among four cattle breeds; Maasai Zebu, Orma Boran, Galana Boran and Friesian, following

exposure to natural challenge. Proceedings of the Fifth KETRI Internal Review. Kenya, 1996. Publication No.63. p.10.

69. Mwangi, E.K., Gettinby, G., Reid, S.W.J. Reid, Stear, M.J. and Murray, Max (1997). Studies on natural tick infestations and their consequences among trypanotolerant *Bos indicus* cattle breeds, the Orma Boran and Maasai Zebu. Proceedings of the Sixth KETRI Internal Annual Scientific Review. Editors, E.K. Mwangi and Phyllis Alusi. Kenya, 1997. Publication No.64. p.12.
70. Mwangi, E.K., Kiara, H.K., Muraguri, G.R., Mbogo, S.K., Gettinby, G., Reid, S.W.J. and Murray, Max (1997). Artificial tick infestation studies on trypanotolerant *Bos indicus* cattle breeds. Proceedings of the Sixth KETRI Internal Annual Scientific Review. Editors, E.K. Mwangi and Phyllis Alusi. Kenya, 1997. Publication No.64. p.13.
71. Ngure, R.M., Eckersall, P.D., Burke, J.M., Jennings, F.W., Kennedy, P.G.E. and Murray, Max (1997). The role of endotoxin in the acute phase response to *Trypanosoma brucei brucei* infection in mice. Fourth International Congress of Immune Consequences of Trauma, Shock and Sepsis - Mechanisms of Therapeutic Approaches. Shock. Vol 7. supplement. Abstract 109.
72. Murray, Max, Jennings, F.W. and Atouguia, J.M. (1999). Topical chemotherapy for human African trypanosomiasis. The Sir Jules Thorn Charitable Trusts 1996-1998. pp. 74-75.
73. Mwangi, E.K., Munga, L., Ndung'u, J.M., Stear, M.J., Gettinby, G. and Murray, Max (1999). Further investigations into the susceptibility to ticks and tickborne diseases in the indigenous trypanotolerant *Bos indicus* cattle breeds in Kenya, the Maasai Zebu and Orma Boran. Society for Tropical Veterinary Medicine, June 1999, Key West, Florida.
74. Dixon, R.M. and Murray, Max (1999). UK screening programme for canine autoimmune thyroiditis. The Veterinary Record. **145**, p. 472.
75. Rodgers, J., Murray, Max, Bradley, B., Kennedy, P.G.E. (1999). Kinetics of CD4 and CD8 cell infiltration associated with the meningoencephalitis

induced in a murine model of African trypanosomiasis. The British Society for Parasitology. Warwick, April 1999.

76. Rodgers, J., Kennedy, P.G.E., Jennings, F.W., Bradley, B., Eckersall, P.D., Williams, A. and Murray, Max (1999). Management of the neuropathology of African trypanosomosis. In "Parasites, Production and Environment". International Conference of the World Association for the Advancement of Veterinary Parasitology. 17th Conference, Copenhagen, 1999.
77. Rodgers, J., Kennedy, P.G.E., Jennings, F.W., Bradley, B., Eckersall, P.D., Williams, A. and Murray, Max (1999). Novel chemotherapeutic regimens to control the post-treatment reactive encephalopathy associated with African trypanosomiasis. Fifty and Forward Jubilee Celebrations. Glasgow University.

7. My University Documents (Archive XXI: Box File 5.7)

- 1957-1962 Certificates, Awards, Graduation, Year Book
- 1974 Vet School Silver Jubilee Sir William Weipers Retires
- Sir James Black The Home of Rest for Horses 1985 Annual Report
- History of Vet School Sir James Armour, Norman Wright(Dean)
- The University of Glasgow Veterinary School. "57 Year Club Reunion". 50th Reunion 2007
- Retirement Memories 1985-2003
- University of Glasgow Newsletters 2009,10,11: Avenue 2012

8. Historic Publications (Archive XXI: Box File 5.8)

- Christine's Letter to Nature 1974
- ILRAD Inauguration Symposium 1978 (**XIII:2.22**)
- World Animal Review(FAO) 1979, 1980, 1983 (**XIII:1.54,61,62**)
- WAAVP/Pfizer Prize, Sun City, 1997 (**V. Awards; XIII.1.181**)
- OAU/STRC 50th Anniversary 1949-99 (**V. Awards**)
- Glasgow Veterinary School 1862-2012. Yam, Philippa (Editor in Chief), Holmes P.H., Murray, Max, and Jarrett, O. University of Glasgow, 2012

9. Major Conferences Organised

- Leadership Training Seminar on Tsetse-borne Trypanosomiasis, organised by the FAO/OAU/WHO in collaboration with the International Laboratory for Research on Animal Diseases (ILRA). Nairobi, Kenya. 5-23rd September, 1977.
- International Laboratory for Research on Animal Diseases - Inauguration Symposium. "Current trends in immunology and genetics and their implications for parasitic diseases". Nairobi, Kenya. April, 1978.
- ODA/British Society for Parasitology. "Trypanosomiasis Seminar". Glasgow. September, 1989.
- "Fifty and Forwards" Golden Jubilee Celebration. The University of Glasgow Veterinary School. 16-19 September 1999. Cost £100,000.00: 700 participants.

10. POST GRADUATE STUDENTS SUPERVISED

1. B RUSHTON

1974

PhD

Studies on the pathology of experimental ovine fascioliasis.

University of Glasgow.

2. J M MONIREI

1982

MSc

Susceptibility of East African livestock to African trypanosomiasis.

University of Nairobi.

3. G W O AKOL

1983

MSc

Trypanosoma congolense infection in cattle: the kinetics of events which follow the feeds of infected and uninfected *Glossina moratans morsitans*.

University of Nairobi.

4. G W O AKOL

1985

PhD

Trypanosoma (Nannomonas) congolense in cattle: the role of the early events, following cyclically-transmitted infection, in induction of immunity and in host susceptibility.

University of Utrecht.

5. R H DWINGER

1985

PhD

Studies on the early pathogenesis of African trypanosomiasis in ruminants.

University of Utrecht.

- 6. A A ISMAEL**
1988
PhD
Studies on the susceptibility of the Orma and Galana Boran cattle to trypanosome infection.
University of Nairobi.
- 7. Mary C DUNCAN**
1990
PhD
The molecular diversity of strains of *Ostertagia ostertagi*.
University of Glasgow.
- 8. J M NDUNG’U**
1990
PhD
Clinical and immunopathological aspects of heart damage in dogs infected with *Trypanosoma brucei*.
University of Glasgow.
- 9. E R CAMERON**
1990
PhD
A study on exogenous gene transfer in mammals.
University of Glasgow.
- 10. T D G WATSON**
1991
PhD
Lipid metabolism in the horse.
University of Glasgow.
- 11. Pauline J MOLLISON**
1991
PhD

Equine Welfare: A study of dermatophilosis and the management of data relevant to the health and wellbeing of horses.

University of Glasgow.

12. M J A WILKINSON

1992

PhD

The use of ultrasound in assessment of canine obesity.

University of Glasgow.

13. E KATUNGUKA-RWAKISHAYA

1992

PhD

The pathophysiology of ovine trypanosomiasis caused by *Trypanosoma congolense*.

University of Glasgow.

14. S W J REID

1992

PhD

The equine sarcoid: molecular and epidemiological studies in *equus asinus*.

University of Glasgow

15. Joan BARRIE

1993

PhD

Hyperlipidaemia in the dog.

University of Glasgow.

16. Hu P HUANG

1993

PhD

Studies of the microenvironment and microflora of the canine external ear canal.

University of Glasgow

17. S H MALOO

1993

PhD

Epidemiological studies of vector-borne diseases with consequent development of preventative medicine programmes for small-holder dairy farmers in coastal Kenya.

University of Glasgow.

18. E K MWANGI

1993

PhD

Variation in susceptibility to tsetse-borne trypanosomiasis among three *Bos Indicus* cattle breeds in different tsetse endemic localities in Kenya.

University of Glasgow.

19. Charity W GICHUKI

1994

PhD

The role of astrocytes in the neuropathogenesis of the African trypanosomiasis.

University of Glasgow.

20. S K KARIMI

1994

PhD

Genetic resistance of Scottish blackface sheep to gastric nematodes: Association with eosinophil.

University of Glasgow.

21. Carmel T MOONEY

1994

PhD

The geriatric cat: Diseases and thyroid dysfunction.

University of Glasgow.

22. R M NGURE

1996

PhD

Acute phase response and the possible involvement of an endotoxin-like molecule in the pathogenesis of murine African trypanosomiasis.

University of Glasgow.

23. A S PEREGRINE

1996

DVM

Drug resistance and drug action in *Trypanosoma congolense*.

University of Glasgow

24. D J MELLOR

1997

PhD

A demographic and epidemiological study of the equine population of Scotland and northern England.

University of Glasgow.

25. Katie M G KNOX

1998

PhD

Statistical interpretation of a Veterinary Hospital Database: from data to decision support.

University of Glasgow.

26. Sally Anne ARGYLE

1998

PhD

Canine vasculature: A study of α_1 -adrenoceptors and heart failure.

University of Glasgow.

- 27. J L M ATOUGUIA**
1999
PhD
New approaches to the chemotherapy of Human African Trypanosomiasis.
The use of topical formulations in the mouse model.
Universidade Nova de Lisboa.
- 28. R M DIXON**
2000
PhD
Canine Thyroid Function: A clinical and clinicopathological investigation.
University of Glasgow.
- 29. Fiona GREGORY**
2000
PhD
The demographics and epidemiology of pet ownership and canine
relinquishment.
University of Glasgow.
- 30. N A McEWAN**
2002
DVM
An Epidemiological study of canine skin disease with special reference to
atopic dermatitis and lethal acrodermatitis.
University of Glasgow.
- 31. JEAN RODGERS**
2003
PhD
Neuropathogenesis of African Trypanosomiasis. The use of the mouse-
model system to elucidate likely mechanisms of the disease process and to
design potential therapeutic strategies in man.
University of Glasgow.

32. S W J Reid

2004

DVM (with Honours)

Quantitative Medicine- The Clinical Science

University of Glasgow.



1985 George Akol ILRAD PhD Graduation (cf., p.253) Utrecht University



XIV. FUNDING

Estimated Total: £75,107,371*

*While some of the funding was obtained by myself or with a small group of colleagues, other awards usually those involving considerable sums were with large interdisciplinary groups from throughout the world.

RESEARCH

Granting Body: Nairobi City Council

Title: Fluorosis in Cattle

Time: 1964-1965

Amount: £2000

Granting Body: Wellcome Trust

Title: Effective vaccination against parasitic diseases

Time: 1972-1975

Amount: £7388

Granting Body: Agriculture Research Council

Title: Immune mechanisms in fascioliasis

Time: 1973-1974

Amount: £9385

Granting Body: ILRAD/ILCA

Title: Trypanotolerance Research Network

Time: 1980-1985

Amount: £3.333 M

Granting Body: AFRC

Title: Molecular basis of strain diversity in *Ostertagia ostertagi*

Time: 1986-1989

Amount: £80,275

Collaboration: J.D. Barry (Genetics)

Granting Body: The Home of Rest for Horses

Title: Equine Clinical Centre

Time: 1987-1989

Amount: £59,459

Collaboration: Sandy Love

Granting Body: AFRC

Title: Use of retrovirus vectors to produce transgenic animals

Time: 1987-1990

Amount: £165,994

Collaboration: D.E. Onions

Granting Body: AFRC

Title: A study on exogenous gene transfer in mammals

Time: 1987-1990

Amount: £40,000

Collaboration: E.R. Cameron

Granting Body: RCVS/Duphar

Title: Transgenic ruminants

Time: 1987-1987

Amount: £5,000

Collaboration: E.R. Cameron

Granting Body: ILRAD

Title: Anaemia in African Trypanosomiasis

Time: 1987

Amount: £2500

Granting Body: Wellcome Trust

Title: The Wellcome Unit for Molecular Biology

Time: 1987-1992

Amount: £1.4M

Collaboration: Parasitology, Genetics, Zoology

Granting Body: Worshipful Company of Farriers
Title: Treatment of acute tendon injury in the horse
Time: 1987-1989
Amount: £10,000
Collaboration: Sandy Love, Q. McKellar

Granting Body: The Home of Rest for Horses
Title: Evaluation of EFA in management of dermatophilosis
Time: 1987-1990
Amount: £89,020

Granting Body: World Health Organisation
Project Title: Improved management of cardiac damage in African trypanosomiasis
Time: 1987-1990
Amount: \$37,000 (£24,600)
Collaboration: H. Dargie (Cardiology, Western Infirmary)

Granting Body: World Health Organisation
Title: Improved chemotherapeutic screen and neuropathological studies in late stage sleeping sickness
Time: 1987-1990
Total Amount: \$191,376 (£120,000)
Collaboration: G.M. Urquhart

Granting Body: The Donkey Sanctuary
Title: Sarcoids in donkeys
Time: 1988-1991
Amount: £61,800
Collaboration: W.F.H. Jarrett

Granting Body: Horserace Betting Levy Board
Title: Lipid metabolism in the horse
Time: 1988-1991

Amount: £40,000
Collaboration: T.D.G. Watson

Granting Body: European Economic Community (STD2)
Title: The role and modulation of the host Immune response in the development of meningoencephalitis in African trypanosomiasis

Time: 1988-1991

Amount: £154,000

Collaboration: P.G.E. Kennedy (Southern General) A.J.S. Davies (ICR)
A.R. Njogu (Kenya)

Granting Body: The Home of Rest for Horses

Title: Dermascan A ultrasound in the horse

Time: 1988

Amount: £14,938

Granting Body: The Home of Rest for Horses

Title: Laser management of flexor tendon injury

Time: 1988

Amount: £14,536

Collaboration: C.M. Marr

Granting Body: The Home of Rest for Horses

Title: Hyperlipaemia and lipid metabolism in the horse

Time: 1989-1992

Amount: £61,629

Collaboration: S. Love, J. Shepherd (Pathological Biochemistry,
Royal Infirmary)

Granting Body: The Donkey Sanctuary

Title: Hyperlipaemia in the donkey

Time: 1989

Amount: £1245

Collaboration: T.D.G. Watson

Granting Body: Overseas Development Administration
Title: Genetic resistance of sheep to nematodes
Time: 1989-1992
Amount: £423,600 (£1.4 million shared with CTVM,
KARI-Kenya)
Collaboration: G.M. Urquhart, J.L. Duncan

Granting Body: Wellcome Trust
Title: Pathogenesis of FIV infection
Time: 1989-1992
Amount: £130,314
Collaboration: O. Jarrett/W.F.H. Jarrett

Granting Body: Cats Protection League
Title: Metabolic disorders of the older cat
Time: 1990-1992
Amount: £48,000
Collaboration: C.T. Mooney

Granting Body: The Home of Rest for Horses
Title: C-mode ultrasonography in the horse
Time: 1990
Amount: £29,000

Granting Body: World Health Organisation
Title: Combination chemotherapy and management of CNS
Trypano- somiasis
Time: 1990-1993
Amount: \$198,526 (£132,333)
Collaboration: F.W. Jennings

Granting Body: Horserace Betting Levy Board
Title: Sarcoids in the horse: an investigation into the involvement
of papillomaviruses using the polymerase chain reaction
Time: 1990-1991

Amount: £6000
 Collaboration: S.W.J. Reid

Granting Body: The Home of Rest for Horses
 Title: Sarcoids in the horse: detection of papillomaviral DNA in paraffin embedded tumour sections using the polymerase chain reaction
 Time: 1991 -1992
 Amount: £12,692.50
 Collaboration: S.W.J. Reid

Granting Body: The Home of Rest for Horses
 Title: Hyperlipaemia in the horse: Ultracentrifuge
 Time: 1991 -1992
 Amount: £29,400
 Collaboration: T.D.G. Watson

Granting Body: AFRC
 Title: Towards a major gene for neutrophil function
 Time: 1991-93
 Amount: £35,500
 Collaboration: M.J. Stear, R. Dalgleish

Granting Body: Commission of the European Communities
 Title: The International Trypanotolerance Centre: Trypanotolerance in N'Dama cattle
 Time: 1991
 Amount: £2,250,000
 Collaboration: A.J.S. Davies

Granting Body: Wellcome Trust
 Title: Lipoprotein metabolism in companion animals
 Time: 1991 -1994
 Amount: £75,629
 Collaboration: J. Shepherd (Path-Biochem Royal Infirmary), T.D.G. Watson

Granting Body: The Donkey Sanctuary
Title: The donkey major histocompatibility complex and disease susceptibility
Time: 1991 -1994
Amount: £134,268
Collaboration: S.W.J. Reid

Granting Body: The Home of Rest for Horses
Title: Equine Welfare Database: Equine Informatics
Time: 1992-1994
Amount: £115,724
Collaboration: G. Gettinby, S. Love, S.W.J. Reid

Granting Body: Commission of the European Communities. Directorate General XII Life Sciences and Technologies for Developing Countries (STD3) Project Title: The genetic characterisation of cattle in West and Central Africa
Time: 1992-1995
Amount: £472,500
Collaboration: M.J. Stear, University of Dublin, ISRA (Senegal), University of Ibadan (Nigeria), C. Hoste (FAO)

Granting Body: World Health Organization
Title: The role of cytokines in the CNS pathogenesis of African sleeping sickness
Time: 1992-1993
Amount: \$42,300 (£23,800)
Collaboration: P.G.E. Kennedy (Neurology, Southern General Hospital)

Granting Body: Overseas Development Administration
Title: The interaction between nutrition and genetic resistance to parasitic disease
Time: 1992-1995
Amount: £286,436
Collaboration: M.J. Stear, P.H. Holmes, J.J. Parkins, J.L. Duncan and Q.A. McKellar

Granting Body: The Wellcome Trust
Title: Study of genetic control of resistance to gastrointestinal nematodes in sheep
Time: 1992
Amount: £16,543
Collaboration: M.J. Stear, J.L. Duncan, P.H. Holmes

Granting Body: Wellcome Trust Research Development Award in Tropical Medicine
Title: Small ruminant trypanosomiasis: influence of breed and nutrition on pathogenesis, susceptibility and duration of chemoprophylaxis
Time: 1992-1995
Amount: £39,114
Collaboration: P.H. Holmes, E.Katunguka-Rwakishaya (Makerere University, Uganda)

Granting Body: Overseas Development Administration
Title: Genetic resistance of sheep to nematodes: Helminthology Link Project
Time: 1992-1993
Amount: £80,000
Collaboration: M.J. Stear, J.L.Duncan

Granting Body: Cats Protection League
Title: Metabolic disorders of the older cat
Time: 1992-1993
Amount: £15,000
Collaboration: C.T. Mooney

Granting Body: The Wellcome Trust Research Development Award in Tropical Medicine
Title: Comparison of the susceptibility of the trypanotolerant Orma Boran cattle to tick infestation and tick-borne diseases with Galana Boran and exotic *Bos taurus* breeds
Time: 1993-1996

Amount: £38,400
 Collaboration: E.K. Mwangi (Kenya Trypanosomiasis Research Institute)

Granting Body: The World Health Organization
 Title: Trypanosomiasis: tests for diagnosis and efficacy of chemotherapy
 Time: 1993-1995:
 Amount: \$45,000 (£30,000)
 Collaboration: P.G.E. Kennedy (Neurology, Southern General Hospital)

Granting Body: Agricultural and Food Research Council
 Title: Genetic control of histological responses to infection with ovine gastric nematodes
 Time: 1993-1996
 Amount: £49,722
 Collaboration: M.A. Park, M.J. Stear, S. Love

Granting Body: Commission of the European Communities. Directorate General XII Life Sciences and Technologies for Developing Countries (STD3)
 Title: The interaction between nutrition and genetic resistance to trypanosomiasis in trypanotolerant livestock
 Time: 1993-1996
 Amount: £327,500 (406,000 ECU)
 Collaboration: P.H. Holmes, J.J. Parkins, M. Gill (Natural Resources Institute)

Granting Body: The Wellcome Trust
 Title: The role of astrocytes in the neuropathogenesis of African trypanosomiasis
 Time: 1993-1996
 Amount: £156,114
 Collaboration: P.G.E. Kennedy (Neurology, Southern General Hospital)

Granting Body: The British Council: Anglo-Portuguese Joint Research Programme, Treaty of Windsor
Title: Chemotherapy of Human African Trypanosomiasis
Time: 1993-1994
Amount: £5,000
Collaboration: Dr J.L.M. Atouguia

Granting Body: SHEFC
Title: Equine Informatics: the diagnostic and education initiative
Time: 1993-1996
Amount: £109,627
Collaboration: Veterinary Informatics and Epidemiology Group

Granting Body: SHEFC
Title: Immune responses in bovine mammary gland
Time: 1993-1994
Amount: £17,000
Collaboration: J.L. Fitzpatrick

Granting Body: SHEFC Strategic Initiative Fund
Title: Gene Therapy
Time: 1994-1997
Amount: £106,000
Collaboration: D.E. Onions

Granting Body: Meat and Livestock Commission (MAFF)
Title: Porcine enzootic disease study
Time: 1994-1995
Amount: £95,423
Collaboration: Veterinary Informatics and Epidemiology Group

Granting Body: The Home of Rest for Horses
Title: Equine informatics: the further development of an equine welfare information system/expert (EqWISE)
Time: 1994-1997

Amount: £299,057
Collaboration: Veterinary Informatics and Epidemiology Group

Granting Body: The Sir Jules Thorn Charitable Trust
Title: Topical chemotherapy for human African trypanosomiasis
Time: 1994-1997
Amount: £100,000
Collaboration: P.G.E. Kennedy (Neurology, Southern General Hospital)

Granting Body: The Donkey Sanctuary
Title: Gene therapy: mutational status of the p53 gene in the equine sarcoid
Time: 1995-1999
Amount: £224,334
Collaboration: S.W.J. Reid, L. Nasir and D.J. Argyle

Granting Body: The World Health Organisation
Title: Trypanosomiasis: tests for efficacy of chemotherapy
Time: 1995
Amount: \$12,000 (£8,000)

Granting Body: The Royal College of Veterinary Surgeons Charter Education Trust
Title: A knowledge base for clinical bovine medicine (OxWISE)
Time: 1995-1998
Amount: £64,500
Collaboration: Veterinary Informatics and Epidemiology Group

Granting Body: Overseas Development Administration (RNRRS Livestock Programme)
Title: The identification of productive and nematode resistant sheep
Time: 1995-1998
Amount: £120,000
Collaboration: M.J. Stear, S.C. Bishop and Q.A. McKellar

Granting Body: SHEFC Regional Initiative
Title: Veterinary Informatics
Time: 1996-1997
Amount: £120,000
Collaboration: G. Gettinby, University of Strathclyde

Granting Body: Overseas Development Administration (RNRRS Livestock Programme)
Title: Evaluation of anti-parasite IgA responses to assess nutritional adequacy during infection of small ruminants with gastrointestinal nematodes
Time: 1996-1998
Amount: £80,000
Collaboration: M.J. Stear and I. MacLean

Granting Body: The Universities of Glasgow and Strathclyde
Title: Chair of Veterinary Informatics and Epidemiology
Time: 1996-2001
Amount: £500,000
Collaboration: G. Gettinby, University of Strathclyde

Granting Body: The Home of Rest for Horses
Title: EqWISE
Time: 1997-2002
Amount: £250,000
Collaboration: Veterinary Informatics and Epidemiology Group

Granting Body: The Home of Rest for Horses
Title: Immunological microstructure of the gastrointestinal tract in equine enteropathies
Time: 1997-1998
Amount: £15,000
Collaboration: J.L. Fitzpatrick

Granting Body: The Royal College of Veterinary Surgeons Lord John Perry Fellowship
 Title: Temporal and spatial clustering of canine neoplasia
 Time: 1998-2001
 Amount: £24,000
 Collaboration: Veterinary Informatics and Epidemiology Group

Granting Body: The Sir Jules Thorn Charitable Trust
 Title: A molecular approach to the prevention and treatment of a murine meningoencephalitis
 Time: 1998-2001
 Amount: £100,000
 Collaboration: P.G.E. Kennedy (Neurology, Southern General Hospital)

Granting Body: Ministry of Agriculture, Fisheries and Food
 Title: Protocol for Field Studies to monitor the persistence of resistance for up to 12 months after the withdrawal of antimicrobial feed additives
 Time: 1999-2001
 Amount: £218,702
 Collaboration: D.J. Taylor, S.W.J. Reid, G. Gettinby

Granting Body: Link Aquaculture
 Title: Development of data based models for effective treatment and the environmentally safe use of veterinary methods in the control of sea lice infestation of farmed salmon
 Time: 1999-2001
 Amount: £313,422
 Collaboration: Veterinary Informatics and Epidemiology Group

Granting Body: The Wellcome Trust
 Title: Epidemiology and evolution of Enterobacteriaceae infections in humans and domestic animals: peri and post harvest risk identification and quantification of foodborne transmission
 Time: 1999-2004
 Amount: £3.85M (£772,582)

Collaboration: Veterinary Informatics and Epidemiology Group
 Scottish Centre for Infection and Environmental Health
 University of Guelph, Canada
 University of Edinburgh
 Emory University, Atlanta
 Imperial College, London
 Scottish Agriculture College

Granting Body: Chief Scientist Office
 Title: The development and evaluation of molecular typing as a tool to investigate the epidemiology of human cryptosporidiosis
 Time: 1999-2001
 Amount: £250,000
 Collaboration: Veterinary Informatics and Epidemiology Group
 Scottish Centre for Infection and Environmental Health
 Scottish Diagnostic Laboratory
 Professor A. Tait

Granting Body: The Wellcome Trust
 Title: The role of the Plp gene in oligodendroglial-axonal interaction
 Time: 1999-2004
 Amount: £383,424
 Collaboration: Dr Christine E. Thomson and Professor Ian R. Griffiths

Granting Body: The Sir Jules Thorn Charitable Trust
 Title: A molecular approach to the prevention and treatment of a mouse meningoencephalitis
 Time: 2001-2002
 Amount: £38,512
 Collaboration: Professor PGE Kennedy and Jean Rodgers

Granting Body: Department of International Development
 Title: A low-cost haemoglobinometer and decision-support tool for bovine disease diagnosis in sub-Saharan Africa
 Time: 2000-2003

Amount: £338,000
Collaboration: Dr N.N. Jonsson, Dr M.C. Eisler, IIDS and VIE

Granting Body: The Wellcome Trust
Title: Neuropathogenesis of Human African Trypanosomiasis
Time: 2001-2004
Amount: £12,100
Collaboration: Professor PGE Kennedy and Professor Krister Kristensson (Karolinska Institutet, Sweden)

Granting Body: The Home of Rest for Horses
Title: Equine Internal Medicine with special reference to Intensive Care and Anaesthesia
Time: 2001-2004
Amount: £71,670
Collaboration: Professor Sandy Love and Dr R.M. Christley

Granting Body: EPSRC
Title: Integrated Olfactory Sensing
Time: 2000-2003
Amount: £285,348
Collaboration: Centre for Integrated Diagnostic Systems (CIDS) and Veterinary Informatics and Epidemiology Group
Professors JM Cooper, SWJ Reid, Drs D Cumming and Philippa Yam.

Granting Body: SHEFC RDG
Title: Integrated Diagnostics for Environmental and Analytical Systems (IDEAS)
Time: 2000-2004
Amount: £1.39 million
Collaboration: Institute for Integrated Diagnostic Systems and Veterinary Informatics and Epidemiology Group
Dr D. Cumming, Professor J.M. Cooper, Dr Philippa Yam
D.D. Dickman and Professor S.P. Beaumont

Granting Body: The Home of Rest for Horses
Title: Epidemiology of COPD in Horse
Time: 2001 - 2004
Amount: £786,324
Collaboration: Dr. R. Christley, Professors Sandy Love and S.W.J. Reid.

Granting Body: The Wellcome Trust
Title: The role of IL-10 in preventing meningoencephalopathy in late stage African trypanosomiasis. A delicate balance of inflammatory and counter-inflammatory regulation
Time: 2002-2005
Amount: £264,000
Collaboration: Dr. J.M. Sternberg (University of Aberdeen) and Professor PGE Kennedy (Institute of Neurology, University of Glasgow).

Granting Body: The Home of Rest for Horses
Title: Equine Clinical Studies: Clinical Epidemiology and Equine Orthopaedics
Time: 2003 - 2006
Amount: £71,670
Collaboration: Professors Sandy Love and S.W.J. Reid.

Total to date: £19,534,994

DEVELOPMENT and BUILDING

Faculty of Veterinary Medicine, Kabete, University College, Nairobi.

University of East Africa

Granting Bodies: Rockefeller Foundation, USAID

Time: 1964.

Amount: £2 million.

Collaboration: University of Glasgow Veterinary School led by Ian McIntyre.

International Laboratory for Research on Animal Diseases, Nairobi, Kenya

Granting Body: Consultative Group on International Agricultural Research (CGIAR)

Time: 1974-1978

Amount: £10million

Collaboration: World Bank, FAO, UNDP, Rockefeller Foundation

The International Trypanotolerance Centre (The Gambia)

Granting Body: African Development Bank, Rockefeller Foundation, Commission of the European Communities

Time: 1984

Amount: £10M

Collaboration: W.I.M. McIntyre, B.T. Touray (Veterinary Department, The Gambia), A.J.S. Davies

Glasgow Equine Centre

Granting Body: The Home of Rest for Horses

Time: 1987-1989

Amount: £59,459

Collaboration: Sandy Love

The Weipers Centre for Equine Welfare (1988-2001)

- The Home of Rest For Horses £ 502,410 (1992)
- The Home of Rest for Horses £ 650,000 (1998)
- The Merck Foundation £ 266,000
- Hugh Fraser Foundation £ 87,000
- Robertson Trust £ 30,000
- The Donkey Sanctuary £ 100,000
- SSPCA £ 50,000
- The Scottish Sports Council £ 465,000
(including matching funds) ‘Sports Injury Diagnostic Unit’
- Development Campaign Office £ 130,000
- The University of Glasgow £1,500,000
- The Ferguson Bequest (1998) £ 120,000
- Bransby Home of Rest for Horses (1999) £ 25,000
- European Regional Development Fund £1,568,424

Glasgow Development Agency

Animal Health Technology Transfer Complex within Weipers Centre

Time: 1988-2001

Amount: £8million

Collaborators: Sandy Love, S.W.J. Reid

Weipers Centre

Granting Body: Chancellor’s Fund

Title: IT Education Facility

Time: 2001-2002

Amount: £30,500

Collaborators: Sandy Love, S.W.J. Reid

Centre for Integrated Diagnostic Systems (CIDS)

Granting Body: European RDF, Glasgow Development Agency

Time: 1999-2002

Amount: £1,069,218

Collaborators: P. Hagan (IBLS), J. Cooper (Engineering), S.W.J. Reid,
I. Greer (Obstetrics, Royal Infirmary), P.D. Eckersall

Centre for Tropical Health and Education

Granting Body: GU Principal's Fund

Time: 1998

Amount: £55,000

Collaborators: Paul Hagan, Ian Maudlin, Andy Tait and Peter Holmes.
This initiative was incorporated into IBLS

Institute of Comparative Medicine (ICM)

Granting Body: Wellcome Trust (Ground work funded by GDA-AJS Davies)

Time: 1989-2004

Amount: £7million (GDA- £100,000)(WT award 2001)
(JimNeil/AndyTait)

Collaboration: Faculty A1 Committee Comparative Medicine Group.
Norman Wright, David Onions, Andy Tait

Small Animal Hospital

Granting Body: A1 Committee/GU Development Fund

Time: 1998-2010

Amount: £15.5million

Collaboration: Department of Veterinary Clinical Studies/ Stuart
Carmichael

Total to date: £53,714,218

COMMERCIAL

Granting Body: Merck Sharp and Dohme

Title: Anthelmintics in pigs, cattle and sheep

Time: 1965-1968

Amount: £4000

Granting Body: Carnation Milk

Title: Nutrition: dog, cat foods and urolithiasis

Time: 1972-1974

Amount: £4500

Collaboration: N.G. Wright

Granting Body: LKB (Sweden)

Title: Ultramicrotomy

Time: 1968-1970

Amount: £3000

Granting Body: Merck Sharp & Dohme

Title: Diversity of ostertagia isolates

Time: 1986

Amount: £4250

Granting Body: May and Baker Pharmaceuticals Ltd

Title: Chemoprophylaxis in East African Zebu Village cattle exposed to trypanosomiasis in Coastal Kenya

Time: 1983-1986

Amount: £140,000

Collaborators: May & Baker Pharmaceuticals (James McAinsh and David Niven), Ministry of Agriculture and Livestock Development, Kenya (Seif Maloo), ILRAD, ILCA (JCM. Trail)

Granting Body: May & Baker Pharmaceuticals

Title: Data analysis of efficacy of trypanocidal drugs

Time: 1986
Amount: £15,000

Granting Body: VetTest Ltd
Title: Development of new veterinary diagnostics
Time: 1987-1988
Amount: £29,644

Granting Body: VetTest Ltd
Title: Database development: chemical stethoscope
Time: 1988- 1989
Amount: £65,678

Granting Body: RMB Animal Health
Title: Development of novel parasiticides
Time: 1988-1990
Amount: £120,500
Collaboration: G.M. Urquhart

Granting Body: Efamol Ltd
Title: Essential fatty acids: dermatophilosis in horses
Time: 1988-1989
Amount: £4000

Granting Body: Waltham Centre for Pet Nutrition
Title: Evaluation of obesity in dogs and cats
Time: 1988-1990
Amount: £51,700

Granting Body: VetTest Ltd
Title: Database interrogation: chemical stethoscope
Time: 1990-1991
Amount: £41,600

Granting Body: Waltham Centre for Pet Nutrition
Title: Walking the dog
Time: 1990-1991
Amount: £42,562
Collaboration: H.Dargie (Cardiology, Western Infirmary), R.Bull (Psychology, Portsmouth)

Granting Body: Waltham Centre for Pet Nutrition
Title: Obesity in the dog
Time: 1991
Amount: £6000

Granting Body: VetTest Ltd
Title: Veterinary Medical Informatics
Time: 1991 -1992
Amount: £57,000
Collaboration: G. Gettinby (University of Strathclyde)

Granting Body: IDEXX
Title: Veterinary Medical Informatics
Time: 1992
Amount: £28,500
Collaboration: G. Gettinby (University of Strathclyde)

Granting Body: The Scottish Office, Industry Department
Small Firms Merit Award for Research and Technology (SMART)
Title: Development of Haematology Analyser
Time: 1992-94
Amount: £110,000
Collaboration: R.B. Clampitt

Granting Body: ZynoCyte Ltd
Title: Haematology Analyser
Time: 1992

Amount: £27,000

Granting Body: ZynoCyte Ltd
Title: Haematology Analyser
Time: 1993
Amount: £12,000

Granting Body: Waltham Centre for Pet Nutrition
Title: Plasma lipid transport in the cat: the effects of age, gender and diet
Time: 1993
Amount: £10,320
Collaboration: T.D.G. Watson

Granting Body: Boehringer Mannheim
Title: Development of a prototype knowledge base expert system in clinical biochemistry
Time: 1993-94
Amount: £10,000
Collaboration: Veterinary Informatics and Epidemiology Group

Granting Body: DTI Regional Selective Assistance
Title: Haematology Analyser
Time: 1995
Amount: £100,000

Granting Body: ZynoCyte Ltd
Title: Haematology Analyser (VS2000)
Time: 1994-98
Amount: £180,000

Granting Body: Heska/Bloxham
Title: Diagnosis Support
Time: 1998-2000
Amount: £100,000

Granting Body: HemaTek Ltd
 Title: Research, Development and Commercialisation of Point-of-care Haematology Analyser
 Time: 1998-1999
 Amount: £40,000

Granting Body: Teaching Company Scheme. Programme Between VericoreLtd and the Universities of Strathclyde and Glasgow
 Title: Fertility Control Vaccines
 Time: 1999-2002
 Amount: £80,416
 £39,024 added in 2000

Collaboration: Vericore Ltd., Professor W.H. Stimson and Dr Val Ferrow (University of Strathclyde) and Dr M. Harvey (University of Glasgow)

Granting Body: Scottish Enterprise Glasgow
 Title: Development of Clinical and Diagnostic
 Time: 1999-2000
 Amount: £20,000
 Collaboration: Ms Marie Hughes

Granting Body: Scottish Enterprise Glasgow
 Title: Business Development Management for Animal Health Technology Transfer Complex and Centre for Animal Care and Welfare (Small Animal Hospital)
 Time: 1999-2003
 Amount: £67,000
 Collaboration: S.W.J. Reid, Sandy Love and S. Carmichael

Granting Body: Technology Ventures (Scottish Enterprise)
 Title: Database design for sporting injuries
 Time: 2000-2001
 Amount: £85,000
 Collaboration: S.W.J. Reid & Dr. D. Mellor

Granting Bodies: Pharmaceutical Companies: May and Baker, MSD etc.
Title: Trypanocides, Anthelmintics
Time: 1965-2003
Amount: £500,000

Total to date: £1,858,258

GRAND TOTAL: £75,107,371

XV. 2003 and ONWARDS-My Projects

The Next Phase: From retiral in July 2003 and Onwards. I made a major effort to extend my diaspora of contacts, meeting an host of amazing and influential people, seeking funds our new Small Animal Hospital and other ventures. I started to digitise my movies and photographs of the family and of my professional life, using them to tell this present story of The Vet School and of Our Family, including, integrating them into my speeches at Katie and Kirsty's Weddings. I became a trustee of The Gambia Horse and Donkey Trust in 2003, and continued my interest in Human African Trypanosomiasis with Peter Kennedy, and helped to initiate a number of Business Ventures, in particular, with Tony Davies, Natural Veterinary Nutrition Ltd (NVN Ltd), involving an Unique Nutrient.

1. External Affairs: My Diaspora

In 2000, I was made **Director for External Affairs (cf., p.126,127 A1 Committee)**, a job I had been doing almost since I returned in 1985 (Home of Rest for Horses-Derek Tavernor, Margaret McGarry-Glasgow Development Agency, David MacCaulay, Clydebank Development Agency etc.). The Vet School was the biggest employer in the west end of Glasgow and I felt we had to be more proactive locally, in Glasgow, in Scotland and beyond etc., etc. I developed a very close relationship with Graham Paterson who was involved in External Affairs and Business for the University-we were already very good friends-Graham had a Diary to Die For-he had been at school with Fred the shred Goodwin later of Infamous RBS Fame. Douglas Hutchison, a Glasgow Vet who founded the Veterinary Times and became a Millionaire became a close friend and ally (I got him his FRSE in 2013). Douglas introduced me to Norman Drummond, founder of the charity for underprivileged children, Columba 1400, with headquarters in Staffen, Skye. He is an inspiring speaker and has written a challenging book 'The Spirit of Success'. I got him his FRSE. I thought he might be interested in The Gambia Horse and Donkey Trust (GHDT). Graham introduced me to Chris Campbell, Chairman of Dundas and Wilson, the largest Law and Accountancy firm in Scotland-we discussed Business Training for Final Year Vets-he gave Max a summer job-he was a great facilitator-he later joined the Royal Bank of Scotland as a Director and was a Rangers's supporter who took me to the VIP seats at Ibrox Park.

I joined the Glasgow Chamber of Commerce and developed a wide range of contacts. I was an Ambassador for the Greater Glasgow and Clyde Valley Tourist Board. I entertained guests at Senate Dinners (Rangers FC Directors-

Campbell Ogilvie, another friend of Graham's), attended Charity Dinners mainly at the Hilton and took a Table for Influential Guests and for Colleagues bidding successfully £500 for a signed Rangers Treble Winners Shirt 2003 (later I gave the Shirt to Angie MacIntosh to raffle for funds for Dunvegan Football Club in Skye), and a Scottish International Rugby Shirt signed by The Team on another occasion. I also joined The Scottish Australian Association (Secretary Freddy Small who kept Llamas). At one of their meetings, I proposed Glasgow for The Commonwealth Games in 2004 and they were held there in 2014-I like to think that maybe I helped, and took Kirsty, Colleagues and Contacts to their Fund Raising Dinners, bidding successfully and taking return taxis through to Edinburgh (2002). I networked with big potential donors eg., Emirates. Graham also introduced me to Amjed Al Jaffery of the Abu Dhabi Investment Bank who had bought The Golden Jubilee Hospital at Clydebank. As a result, for 5 years in a row Christine and I attended The British Arabian Horse Show usually held near Guilford and Christine was invited to present Prizes-Once we had our own Glasgow Vet School Stand and another year Heather Armstrong was there with the GHDT. Through Amjed, I met the brilliant Pradeep Ramayya of AxSys Systems (**XI:8.4. Technology and Business Ventures**).

2. Buildings and Funding

The Small Animal Hospital was my major objective from 1998 at a cost £15m, my baby, and Stuart Carmichael's design. In 2003, Forbes MacPherson became Chairman of The Fund Raising Committee (originally within the AI Committee). He did a fantastic job. I started to slowly withdraw but remained active in the background. The £15 million was raised!!! And the **Small Animal Hospital** was opened in 2010 (The Murray Family made a Major Donation of £12,800: Christine's Pension for 5 years). **The Weipers Centre for Equine Welfare** was opened in 2001 by Princess Anne and the **Wellcome Institute for Comparative Medicine** in 2004. I was a key instigator of all three: each in the end took 12 to 14 years to be realised (**XI:8.3 Building Programme**).

3. Archives

3.1 Glasgow Vet School

I became more and more interested in **Glasgow Vet School's Story** as it was so intertwined with my life-The Vet School had employed Christine and Me. I felt that I possessed a large amount of material, photographs and documents, and had contributed to it being one of the top Veterinary Schools in the world, making a major impact in Research, Teaching and Training eg., in 2016, 4 of the 6 Vet

Schools in the UK had Principals who were Glasgow Graduates, three of them my boys.

I became close friends with Dr Peter McKenzie, whose daughter Beth was a Glasgow Vet Graduate of 1975. Peter was Head of Belvidere Hospital at Tolcross in the East End of Glasgow. He was a Rangers' Supporter, and said that the only problem with Belvidere was that patients from Glasgow had to travel past Parkhead-Celtic's Stadium. He was a charismatic, wonderful enthusiastic man. A brilliant Clinical Diagnostician, who with his Head Matron ruled Belvidere with a Rod of Iron. He had looked after my Mum and Dad, and my sisters, when we were at ILRAD. He was also a great Pianist. His wife Mary was also a Doctor. They were both Royalists (Royal Infirmary) and had a low regard for The Western Infirmary. He was a true Glaswegian and had turned down many job offers from Edinburgh and London. Peter had written a book on the History of Glasgow Medical School. And as part of this exercise he had carried out Video Interviews for The University Archives, including Vets, as Glasgow Vet School had been part of the Medical Faculty since 1949. He got to know Sir William Weipers and Bill Jarrett very well. As I became more interested in our Archives I got to know Peter very well. They lived in Burnside, Rutherglen.

I also visited The University Archives Department to discuss my Plans. What an amazing place-they had detailed plans of nearly every ship that has been built on the Clyde in the last 200 years, including the Battle-Cruiser the Hood which had been built in Fairfields and on which my Dad worked, and is now being completely digitised. She was sunk by the infamous German Battleship The Bismark by a direct hit losing nearly all 2000 hands-strangely enough I met a survivor in Gartnavel Hospital in 2009 when we were both undergoing a TURP operation. I formed a very good working relationship with The Archives Department and on the basis of this acquired an up-market Digital Voice Recorder and an up-market CanoScanner to start doing interviews and digitising documents and photographs. I tried to get the Grumpy Old Men involved (GOM-Norrie, Os, Jack and Hugh), but failed and Os lost the recorder.

So I started out on my own to digitise photographs and documents. I decided to include personal material. It was not until 2012, Our 150th year Anniversary of The Glasgow Vet School, that a real collective effort was made to publish a book on The School. Philippa Yam was appointed Editor. She had done a terrific job organising, in 1999, the 50th Anniversary Celebration of The School joining The University. I was one of the sub-editors of The Book with Peter Holmes and Os Jarrett. We were a great Team and The Book "Glasgow Veterinary School 1862-2012" was a masterpiece (**XIII:2.52, XXI: Box File 5.8, Book Shelf**). I wrote large sections of the Chapters on Teaching, Research, Buildings and Africa as well as a piece called Afterword. I also provided a large number of memorable photographs.

3.2 My Family and Me.

The foregoing efforts stimulated an expansion of my **CV into this current Saga**, including all **The Family**, with Stories, Philosophy and Reflections complemented by Pictures-Stills and Movies-this is an ongoing programme including a huge **Photographic Digitising Exercise** which I initiated in 2003. I had already started to splice my 8 mm Cines when we came back from Nairobi using equipment I got from Grandpa. I had always been interested in Photography. At 253 Nitshill Road to where we had moved in 1950, I had turned my bedroom into a Darkroom, with blackout, an enlarger, and printer and developing, all in black and white. Through the ages I had a range of cameras starting with a box Kodak. When I went to Kenya I bought a Canon Cine Camera (I also bought large very powerful binoculars in Aden when sailing to Mombasa). I recorded movies including, Glasgow Vet School's activities in East Africa from 1963-65 and our Family in Nitshill from 1965-75 with increasing use of still cameras (**XXI:7 Pictures Files**).

In 1975, Alan May, the deputy to Archie Finney, the iconic Glasgow Vet School photographer, purchased a Nikon camera for me with a range of lenses which I used extensively in Geneva, East and West Africa and in Glasgow and elsewhere right into the 2000s. When we came back from Kenya in 1985, I also bought a Video Camera which was big and heavy and then upgraded to a smaller more powerful Panasonic in the late 1980s and used this till 2008. I had several 35mm still cameras, including a Minolta and a Canon. Then the digital age came along and everyone had a range of cameras in the Family (who started to take more and more Family Photos) and I eventually bought a dual purpose Sony Cybershot, and gave my beloved Nikon to Tim, Judy Allen's friend who was a Nikon Fanatic-I was sad but it got a good home.

Around 2002, I found a firm in Ayrshire and with The University Photographic Department transferred my Cines and Videos to VHS. I bought a VHS/DVD player and recorder in 2007 and transferred everything to DVD and later to My Computer. The 1963-65 DVDs (East Africa) I sent to the Jarretts, The Martins and McIntyres and all the team of that Era, including, Freyda, Gladys and Morann. 1965 to 1975 Nitshill etc. Memories I sent to Mum and my Sisters Evelyn, Sandra and Lesley. 1985 and onwards was copied to Katie, Max and Kirsty.

For my oration at **Katie's Wedding** in Skeabost, Skye on 31st July 2009 with the help of my nephews Lewis Allen and Zach McConnell, I made a sound Movie of Katie's life "**Katie's Journey**" (**p.603, XXI:7.2.2**). It was sensational!!! Then in 2012, I made A Musical "**Simply the Best**" (**p.610, XXI:7.2.2**) for my Speech at **Kirsty's Wedding** on 21st September at the Tithe Barn in Hampshire- just wonderful.

In October 2012 just after Kirsty's Wedding, Max and Bec and Max William had come back to Glasgow with us. Max suggested that with all my digitising experience with the 150 Year Anniversary Book I should digitise The Family Photos. With my faithful CanoScanner I started to digitise all photographs from 1975 onwards, and then for another publication from 1939. I have sent Katie, Max and Kirsty USB memory sticks of all photos from 1976 to 1985. By 2015, I finished from 1985 Onwards and sent them to Katie, Max and Kirsty. I will send them a further update now that I have Adobe Photoshop. I also digitised black and white photos of The Murrays from 1939 to 1970 and shared them with my Sisters (Evelyn, Sandra and Lesley) and now await more from Lesley. Finally, I digitised my Pathology, Research and Vet School slides.

4. The Gambia Horse and Donkey Trust(GHDT)

In **2002**, The Brewer Sisters, now married, Stella Marsden and Heather Armstrong, created **The GHDT** "Fighting Poverty-Feeding Families". The Aim "To Reduce Rural Poverty by Increasing Productivity of Working Horses and Donkeys through Welfare, Management and Education" (**XIX:5**).

Throughout the 90s the Tsetse-Trypanosomiasis risk had been decreasing in The Gambia and, as a consequence, the horse and donkey population had been increasing, as they are more susceptible to trypanosomiasis than the local trypanotolerant NDama cattle. Gambians lacked experience and knowledge of equidae with the result that their management was very poor and what appeared as cruelty was most often ignorance. The solution was education underpinned by improving basic infrastructure, particularly of schools and primary human healthcare. I was invited to become a Trustee in **2003**. My first contribution was to ensure the support of Glasgow and other Vet Schools, including Edinburgh, Liverpool and London. Consequently, the GHDT has evolved over the years developing a wonderful infrastructure with a school with IT facilities (provided by Strathclyde University), and a hospital, a Skills Centre for Adults, in the Sambel Kunda North/Central District, and the Makasutu Training Centre for Animal Health to be opened at the Coast in January 2017. In 2012, the GHDT was recognised in The Times Charity Awards as one of the best Small Animal Charities in International Aid and Development. In 2016, Heather received the Pet Plan Animal Charity Award as Animal Charity Volunteer of the Year. I was involved in several initiatives. In 2003, I had met Sir Alex Ferguson at the opening of The Sports Medicine Centre at Hampden, and Dr John Maclean, Director of the new Centre and Doctor to The International Football Team. The children of Sambel Kunda, boys and girls, were mad keen on football and in order to promote better care of their animals, they were encouraged to call their donkeys after famous footballers e.g., Messi, Ronaldo and of course Coisty (Ally McCoist), while also inventing a game, Donkey Ball riding the donkeys and

passing the ball by hand. I contacted Sir Alex and he sent me a large box of kits, including David Beckham's No 7 strip which I kept for Max, and the rest went to The Gambia. I also got Strips from Rangers, Celtic and Hearts. The Headmaster at Sambel Kunda School who was one of the referees was quite jealous so I got Referees' kits from John Maclean. I told Rhona McLeod of the BBC the story, and in 2008, she and Stuart Reid went out to The Gambia and made an excellent programme which was shown on BBC 2 (**XXI:7.2.2 Gambian Goals DVD**). In 2006, Stella received an Honorary DVMS from Glasgow, Proposed by Stuart Reid, now Dean, and myself. We had a wonderful celebration at Ledcameroch, with all the Brewers, Ian and Ruth McIntyre, The Reids and The Hutchisons etc. Sadly, Stella died of cancer in 2008.



Manchester United of The Gambia



Donkey Ball

The Saga of Calum's Road (cf., also XIX:5). In 2008, Ronnie MacKay gave me a book entitled 'Calum's Road' by Roger Hutchison. Ronnie was a friend of Grandpas in Erskine Care Home for Veterans, and a close friend of Christine and John and me. He was from Kingsburgh in Skye the village to which Flora MacDonald took Bonnie Prince Charlie 'Over the Sea to Skye' in his escape to France. Kingsburgh is in Trotternish close to Katie and Peter's land; when Flora returned from America, she spent the rest of her life in a house on their land. The book tells the story of Calum MacLeod, who single handedly built with a pick and shovel and wheelbarrow his road on the Island of Raasay just across from Skye-the Local Authority could not afford to do so. It was called Calum's Road and was written by Roger Hutchison who lives on Raasay. It was through rough hilly terrain 2 miles long and took him 20 years. I found the book inspiring. At almost the same time, Heather contacted me distraught by the fact that the road to Sambel Kunda and School had been washed away by flooding. It would cost hundreds of thousands to replace!!! I told Heather about Calum's Road, so we decided to build the road ourselves with the locals, and call it Calum's Road. In late June, I called Roger Hutchison who lived on Raasay and asked him if we could call our Road, Calum's Road-he was delighted and excited and alerted the Press and the Media-**All Hell Broke Loose!!!** There was coverage on the BBC where I did an interview and articles published in The Herald, The Scotsman, The West Highland Free Press, and the Aberdeen Press and Journal etc. It was a long hard job for Heather and a long story involving some remarkable people, including, the Highland Bikers, a group of men on their motorcycles who travelled from Raasay down through the Sahara to The Gambia to Sambel Kunda to raise funds. The Road was Built. The Glasgow Vets were involved and David Sutton and Patrick Pollock attended The Opening where Patrick piped in the launching-he is a World Champion Piper (**p.596**) and a World Class Equine Surgeon.

Over the years Glasgow Vet School has continued to be involved through David Sutton and Patrick Pollock dealing with the persistent threat of trypanosomiasis, particularly, *Trypanosoma equiperdum*. At the same time, we found that eCalm (**NVN Ltd cf., later**) had a very positive effect on body condition and increased resistance to trypanosomiasis.

Overall, **The GHDT**, through the continued leadership of that amazing lady Heather Armstrong, has made remarkable progress in improving the health and welfare of the people and animals of Sambel Kunda, the surrounding areas and throughout The Gambia.

5. Research: African Trypanosomiasis

In 1988, I attended a seminar on Maedi Visna in sheep given by **Professor Peter Kennedy**, the newly appointed Burton Professor of Neurology at The University. He was brilliant. I introduced myself and introduced him to African trypanosomiasis. We have been friends and colleagues ever since. Peter became our personal Medical Consultant and like me obsessed by the trypanosome and the deadly effects. I became his *confidante* in his career and research priorities. He researched on human African trypanosomiasis (HAT) over the next three decades. He and I went to Kenya in 1988 and 1990, first with Frank Jennings and then with George Urquhart. Peter returned to Africa on numerous occasions, He and his team, including Jean Rodgers (and me), made major progress in our understanding of the pathogenesis of HAT and have developed a potential new drug, a Complexed Melarsoprol, which we believe is highly effective, has no side-effects and can be given orally-a huge advantage (**XII:2.2.1**). We hope it will be trialled soon in Uganda. I successfully proposed Peter for a FRSE and a CBE in 2009. In 2014, I successfully nominated him for The Sir James Black Medal of the Royal Society of Edinburgh. This is the most senior, competitive and prestigious research award in the Life Sciences that Scotland's National Academy of Science can bestow. He has looked after us WELL!!!

6. Business Initiatives

On my return to Glasgow from Kenya, I became increasingly involved in **Business Management and Development (XI: 8.4)** as the department grew to from 50 to over 160 personnel with a budget of over £6m. Cuts in our income meant that we had to adopt a more aggressive commercial strategy in our Clinical and Diagnostic Services, as well as consolidate and expand our already good relationship with the Private Sector, including the Pharmaceutical Industry. As described, I had a major involvement with Point-of Care Diagnostics which continued well into the 2000s. From 2003 my business pursuits diversified, notably with SportsWise, MAXAL and with Tony Davies “Magic Sprinkles”, an extract of Fermented Wheat Germ Extract, marketed as eCalm..

6.1 SportsWISE Ltd

Injuries to Sports Men and Women constitute a massive problem worldwide. In professional sport, athletes who sustain an injury may face periods of interrupted training and competition with subsequent loss of earning opportunity, costs of diagnosis and treatment and the potential of being unable to resume their sporting activity. For professional sports clubs, in the entertainment business, income is dependent on performance in competition, which in turn is dependent on the ability of the best athletes to perform for the duration of competition.

We, Stuart Reid, Dom Mellor and Stuart Carmichael, proposed the development of evidence-based sports injury risk management products for use, in the first instance, by football clubs. This would comprise establishment of a player data-recording framework, identification of optimal analytical algorithms and development of intuitive user interface for delivery on an existing health software platform (AxSys Technology Ltd Pradeep Ramaaya). Thus, identifying modifiable risk factors for injury and individual players at risk from injury, with informed management decisions on selection for games, training and rest schedules and pre-emptive treatment, reduced injury rates and severity. This would transfer directly into substantial club savings, and enhanced performance and competitiveness.

The Commercial Model we envisaged would entail creation of the system as a stand alone device for use in standard computing equipment. We envisage creation of a spinout company called SportsWISE Ltd selling a range of products under the umbrella name ProVenta. Our products would be the system, and the expertise behind it. It is envisaged that ongoing development would refine analytical algorithms as more data become available from more clubs. It was foreseen that the system and the service would be of great value to the clubs because of the potentially huge savings to be made on player wages (as much as £300K/week plus in the Premier Division)

Market Assessment: The customers for this product will, in the first instance be football clubs in the UK. There are 92 professional football clubs in England and a further 42 in Scotland. Due to the high value of this product, it is considered that commercial success will not be heavily dependent on large volume sales. However, there is market potential with every professional football club in the world, and in every sport as well as competitive animal athletes.

Abstract: through collection and analysis of existing and newly generated data on player injury history, training and performance, it is proposed to identify risk factors for non-contact injuries in footballers. A novel computer-based management tool for football clubs will be created by incorporating a custom built player database with continually updated injury risk algorithms in an intuitive interface. The system will direct collection of player related data and will provide detailed risk analysis for individual players in individual fixtures or training activities. Thus, football managers will be informed of injury likelihood for any or all players in the club in any given match or training activity, and can therefore adjust team selection and/or player management accordingly. Adopting this evidence-based avoidance of risk, managers will be enabled to reduce the burden of injuries to the club, thereby saving considerable sums of money on player wages and treatment, and maximise the availability of the strongest team with the attendant improvement in competitive success.

Initially we made good contacts with Walter Smith, Manager of Rangers, and with John Maclean, Director of The Sports Medicine Clinic at Hampden, and Doctor to the Scottish International Football Team (**XII:6.3 Medical Informatics p.138**).

It was a brilliant idea but unfortunately in 2004/5 we all had to go our separate ways

6.2 MAXAL

I became obsessed with the **Units of Alcohol**. Having retired and having been diagnosed with Type 2 Diabetes, I had developed an increasing consciousness in exercise and diet with a special interest in alcohol intake. I was mindful of the alcohol aware campaign and the recommendation of a daily maximum of 3 units for women and 4 units for men. I soon realised that few people, including Doctors knew precisely what a unit was eg., 1 unit was a glass of wine and one glass of whisky was 2 units-I soon realised that even a small 125ml glass of wine can be more than 1 unit.

Consequently, I developed **MAXAL**. I defined a simple algorithm for use in a credit card solar powered calculator that provides an immediate accurate measurement of a Unit of Alcohol based on Volume and Concentration. It could be kept in a wallet, in an iPad, mobile telephone (APP) or on the wall of a wine shop/supermarket. I failed to persuade the Drinks Industry, the NHS or Supermarkets. I still believe it was a good idea and to this day few people know what a Unit of Alcohol is.

6.3 Natural Veterinary Nutrition Ltd (Magic Sprinkles)

In the early **2000s**, Tony Davis reviewed for The EU a nutrient, a fermented wheat germ extract (FWGE) marketed as ImmunoVet then eCalm. The idea for such a substance came from Albert Szent-Gyorgy, the Hungarian Nobel Prize winner, and was extracted by Mattheus Hidvegi and Emma Kossa. They found that it had remarkable effects across the species, including man. In Farm animals it improved production-condition, weight gain and milk output: it stimulated the immune response, as well as non specific resistance, eg., to mastitis in cattle lowering somatic cell counts.

Tony formed a company VetisFa Ltd of which I was a Director in 2000 to develop FWGE in the UK. We decided to test FWGE in Poultry. I had good contacts with the Scottish Agriculture College at Auchencruive who demonstrated in a small number of chickens increased growth rate. It was too expensive to expand this study, so as dog walkers we turned our attention to Companion Animals, dogs, cats and later horses. Tony is a brilliant Chef and makes baked liver treats for Dogs and Cats. In 2009, he added ImmunoVet to them and called them ImmunoTreats. At this point, Malcolm Weetman, a Veterinary Practitioner and Tony's son-in-law, joined us. We carried out a

series of studies on Dogs and Cats, starting in October 2010, in Glasgow and in London, mainly animals we met walking the dog, as well as animals that Malcolm identified. Kirsty Murray *nee* McGinley in 2012 designed a very clever Well-Being Diary for our Clients to score listed Criteria for Semi-quantitative Analysis, including, behaviour, condition, skin, appetite, alimentary tract, and mobility.

The results were remarkable with responses in animals in which conventional veterinary treatment had failed. For Example, our Kiwi was amazing with responses in condition, coat, behaviour and mobility-she has chronic arthritis and in 2015 she was still on her daily dose running around like a 2 year old; at the age of 16 she no longer requires ImmunoVet but shows no sign of lameness. Another major success was with Teal, a 9 year old Black Labrador with a heart problem and chronic arthritis from an early age, and a poor quality of life, owned by Rosie Brown of Easterton Stables. The effect was dramatic: improved mobility, condition, demeanour/energy and a shiny coat. When stopped for a few days the clinical problems returned: Teal lived for another 4 years.

Rosie's Easterton Stables, just outside Milngavie, houses over a 100 horses. Many suffer from a range clinical problems eg., bad behaviour, often associated with Oestrus in mares, poor condition, gastrointestinal tract-colic, diarrhoea, skin problems, laminitis etc. Between 2011 and 2016 we treated over 300 cases at Easterton, while Malcolm Weetman, Tony Davies, Kate Saunders and Tim Watson dealt with a guestimated 60. We scored the response with a Wellbeing-Diary prepared by Kirsty Douglas, a Glasgow Vet Science Student and modified by Malcolm to provide a semi-quantitative scoring system. Once again the results as in dogs and cats were dramatic. In 2012, 2013 and 2014, we focused on bad behaviour during Oestrus. Again, dramatic results were achieved within 24 to 72 hours with improved behaviour and improved performance in competitions. The effect was confirmed by withdrawal and crossover studies. Up to the present we have carried out well over 360 case studies with 99.9% efficacy and just published our first paper(**XIII:1.201**).

These findings gave us the confidence to launch a new company **Natural Veterinary Nutrition Ltd (NVN)**-Directors Tony, Malcolm, Lapis Kr?rply and me (I will receive 15-20% of the profits – I am still negotiating). We are working in collaboration with several eminent Equine Vets, including Patrick Pollock at Glasgow, Tom McGinley at Liphook, Hampshire, Tim Watson in The Cotswolds and Celia Marr of Rosssdales in Newmarket. In April 2014, we had three major break-throughs!!!. It was found that FWGE stimulates the neurones in the Paraventricular Nucleus of the Hypothalamus of the brain, cells that release Oxytocin a hormone known to have a wide range of beneficial effects, including Calming and a feeling of Well-Being, in ALL species, as well as Vasopressin etc., etc. This is exactly what we are seeing in horses at Easterton and elsewhere.

At the same time, Tony Davies has synthesised a silicon chloride-lipid complex we call Pin Ball Lipid (PBL) for reasons I will not go into. What is amazing is that we have found up at Easterton that PBLs had the same effect as FWGE. Also at University College London, Amir Ahmed found that the PBLs *in vitro* stimulates beta catenin production. Thus we can make it ourselves!!! I believe that, if we can protect the Intellectual Property Rights (IPR), these findings are worth MILLIONS!?. At the start of 2015, we started to sell. Kate Saunders a friend of Malcolms is our Sales Woman and very knowledgable horse person. In 2016, Steve Meade a top class Business Man has become involved. Watch this space!!! We plan to launch FWGE as RxVitalise for dogs and cats.



Max Murray

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XVI. ME and MY FAMILY 1985-----

When we arrived home from Nairobi on Monday **1st July 1985 (Picture Story p.343 and Onwards)**, Lesley had arranged for our brand new silver grey Volvo Estate to be at Glasgow Airport wrapped in a White Ribbon and playing 'I belong to Glasgow' when I switched the ignition on. We went back to Elsa and Ron's at Titwood Road and next day bought three bicycles and the following week on the **14th July** moved into 21 Ledcameroch Road in Bearsden, a magnificent 100 year old divided Mansion with a large 'car park' at the front and a one and a third acre garden at the back. Christine had found it earlier in the year when she had returned on her own to house hunt and to look at Schools. When she was in Bearsden visiting Jane McCann whose Bridesmaid she had been, Jane told her that the house next door was going up for sale. We bought it. For Katie, Max and Kirsty's schooling, we decided on The High School of Glasgow (GHS) founded in the 11th Century and rated one of the best schools in Britain. It had produced two British Prime Ministers, Andrew Bonar Law and Campbell Bannerman as well as Sir John Moore of Corunna, and Sir Colin Campbell/Lord Clyde of Relief of Lucknow-Indian Mutiny (1857/8) and commander of the Thin Red Line at Balaclava of Crimea Fame. The Junior School was next door, and the Senior School was at Anniesland Cross. Two of the most important decisions we ever made!!!

In addition to the Family Volvo Estate, James McAinsh (Chief Executive of May and Baker for whom I was working as a Consultant-£6000 per year) provided us with a Ford Estate, and then a dark Blue Volkswagon Golf which I later bought in 1986 for "a very good price". Over the years, we had many interesting cars (**XVIII: p.550-552**). I immediately travelled down to London where James McAinsh and David Niven introduced me to Raymond Godfrey, who looked after our investments for 15 years until his retirement, and with whom I invested £150,000, having presold my ILRAD \$ Salary on 4th March at a remarkable exchange rate buying a £ for a \$ on the advice of Mr Seymour, our long time Bank Manager of The Royal Bank of Scotland in Milngavie (**XXI:4.17**). Then in 2000 Jim McLatchie took over, on the advice of Graham Paterson, my great friend and business advisor. Graham has a business diary to die for. Through Derek Tavernor and James McAinsh I joined The Savage Club in London. It was founded in 1857, as a Bohemian Club for Gentleman focusing on Literature and the Fine Arts. Peter Mackenzie, Director of Belvedere, the Infectious Disease Hospital in the East End of Glasgow, was also a member-he was a great pianist and Rangers' supporter (**XV:3.2**). He eradicated TB from Glasgow in the 40/50s. Derek took me to the Dinner of The Worshipful Company of Farriers in London. I had started my networking campaign (**A1 Committee/External Affairs p.285**).

Subsequently, socially we carried on much as usual, eating out once or usually twice a week, often the whole family or sometimes just Christine and I. In Bearsden, Octobers was popular, owned by Ferrier Richardson, with his brother Simon, and La Bavarde with the famous Tony. Roganos was our favourite in town (Lobster Thermidor), and Yes, also owned by Ferrier Richardson. One difference was that we could not find anywhere that matched The Carnivore in Nairobi for Sunday Lunch and we gradually stopped trying. Unlike Nairobi, drinking and driving was a no-no and we became regular clients of the local taxi company A1/Ambassador, which was owned by one of my technicians, Arlene Macrae's brother-in-law whose brother Murdo MacLeod played for Celtic and Scotland. I became a Rangers Season Ticket Holder in 1986 and continued until 1997- my first visit to Ibrox was in 1941 with my Uncle Collie (Colin), Dad's brother. I, as well as the Family, continued to travel widely throughout the UK and the World, back to Africa to Kenya and The Gambia, to Europe and the USA as well as Australia which later became a large part of our life.

In August **1985**, we had a visit from The Woods, Ailsa and Ron, and Ron; as usual did the carving, while Jackie and Paddy, Mike and Jenny visited us from the USA over Christmas and The New Year. I had a trip to Rio de Janeiro via Frankfurt to attend the WAAVP Meeting in August. There I met Elisabeth (Betty) Svendsen, The Donkey Lady (Founder of The Donkey Sanctuary) and there followed a life-long friendship. I proposed her for an Honorary Degree at Glasgow University which was awarded in 1992. I went to a conference on Tropical Disease in Copenhagen where I was invited to the British Embassy for tea by the Ambassador, James Mellon, a Glasgow Graduate who also had worked in Africa.

In **1986 (Picture Story p.346)**, we started our regular annual visits to Aviemore, Coylumbridge and the Cairngorms during the school holiday weeks in February and October, and occasionally also in the summer, sometimes to Coylumbridge Hotel, but most often to a Chalet on the banks of the River Spey in Coylumbridge Camping Ground. From there we (Katie, Max and Kirsty) went Skiing, Sledging, Skating, Go-karting, to the banks of Loch Morlich, to the Wildlife Park at Kingussie, and dining out frequently in the 'Skiing-Doo' in Aviemore. In March, I attended the 8th WHO TDR STAC Meeting in Geneva to present a review of the work of the three STRC Committees on African Trypanosomiasis; I spoke on behalf of the other two Chairman. I went to the USA in late July to attend a Meeting in Nebraska (via Chicago), and then to Atlanta, Georgia to give invited keynote presentations on "Genetic Resistance of Ruminants to Parasites" to the American Veterinary Medical Association, and to the American Association of Veterinary Parasitology Annual Conferences, where I met Betty Svendsen once again, then on to visit Keith and Jean Murray in New Jersey.

Betty Svendsen is one of the most remarkable women I have ever known. I first experienced her “Magic” at the Conferences in Atlanta. I was speaking on a subject I felt strongly about and at the end of my paper the audience response seemed very positive. There were several papers in this session, one of which was presented by Betty. She spoke passionately about the wisdom of donkeys, their incredible work ethic and their physiological strength: they were a distinct species and were not small horses. I found it a spellbinding presentation. At the end of the session, I saw a flood of delegates coming towards me at the front of the conference hall and assumed it was to congratulate me on my delivery. I awaited their plaudits and I was therefore surprised that the crowd rushed passed me to the blonde lady just behind - Betty Svendsen! This was an audience reaction that I had never seen before or since. We all realised that we had witnessed a very extraordinary presentation, and I had to acknowledge that I for once was totally outperformed. What an amazing lady!

In August, we all drove to the Cotswolds to visit the Woods. We then crossed the Irish Sea from Fishguard in Wales to Rosslare just south of Dublin-the ship broke down halfway across; Christine got ready to save all of us. Whence we spent a week in the West and South of Ireland, including Waterford and Tipperary, returning to Glasgow via Stratford-on-Avon.

We then returned to Kenya to spend Christmas and New Year with The Woods at Lower Kabete. We had lots of reunions at The Carnivore, including with Samson our waiter over the years to whom I gave a large tip of thanks for his years of service, and looking after Katie, Max and Kirsty. We had Christmas on the Mombasa Coast at Msambweni, south of Mombasa near the border with Tanzania, very beautiful!!!(p.351).

We returned to Glasgow to a very snowy January **1987 (Picture Story p.354)** and in February we went Skiing and Sledging to Aviemore and returned there in October. At Easter, we all drove down to Scarborough where I gave The Wellcome Guest Lecture and then we drove to Harpendon, Hertfordshire, to James and Gloria McAinsh, where the Iconic David Niven and his wife joined us. We then went across to the Woods in the Cotswolds. In August, we flew to Copenhagen where we visited The Tivoli Gardens and then flew in a small plane to Legoland-it was awesome. I also attended the WAAVP Meeting in Montreal with the Glasgow Mafia, and went to my first and only Baseball Game-really good!!! Home for Christmas. Jackie and Paddy, Mike and Jenny came from USA for Christmas and New Year.

I went to an ITC meeting in The Gambia in January **1988 (Picture Story p.358)** with Tony Davis. Ian McIntyre had partially forgiven me for taking The Medicine Chair in Glasgow. I became a Member of The ITC Council. In February, we went Skiing to Aviemore. In May, I gave the William Dick Lecture at Edinburgh Universty. I now started regular annual visits to the USA to New

Jersey and New York with Roger Clampitt over the next few years in relation to the development of VetTest 8008 and other Analysers (**XI:8.4; XIX:2**): in the first instance, this was to Kodak who were manufacturing the test diagnostic strips where Chris Little presented a brilliant seminar. We flew Virgin Atlantic Upper Class. On the first trip I had an exciting experience. The plane was a Jumbo Jet with a fantastic Cocktail Bar. I was standing at the Bar when the Captain came down and we got talking. He used to work with British Airways and flew regularly to Nairobi. We had a great chat and he invited me up to the Cockpit and he let me sit down at the controls-Wow that would not happen now!!!

We had our Summer Holidays at Aviemore, Go-Karting (**XXI:7.2.3**) etc. In December, I went to Nairobi with Frank Jennings and Peter Kennedy to participate in a WHO workshop and to visit Muguga to discuss the Ovine Helminth Genetic Resistance Programme that I had initiated with George Urquhart. Dining at the Norfolk on what we believed to be our penultimate night before flying home, we suddenly realised it was TONIGHT and raced to Jomo Kenyatta Airport-the BA Flight to London was closed-it was just before Christmas! I leapt a barrier and managed to get into a KLM Office-they had a Flight leaving in 30 minutes. With my American Express card, I bought three First Class Tickets to Amsterdam and we had a wonderful flight home. I eventually recovered my money.

We really travelled during **1989 (Picture Story p.365)**, starting to London at Easter. The threatened decision of the Riley Committee to close Glasgow Vet School was reversed by Maggie Thatcher after an International Outcry and a 600,000 Petition. It was the biggest Public Protest since the Poll Tax. Tony Davies and I went to ITC, The Gambia in May for a Council Meeting during which time Ian 'decided to retire' due to a disagreement with a The Gambian Minister of Agriculture. We were really concerned for his Well Being and Safety. When I returned, Christine gave me two beautiful Acers for my 50th Birthday; they continue to Flourish. In June, I was invited to give the Prize Giving Speech at Shawlands Academy, my old school, and Christine presented the Prizes-I think my Speech was enjoyed by all-I got advice from Angus Dunn and Bill Mulligan, colleagues at the Vet School, both accomplished speakers. Then in July, I gave a Lecture on Trypanotolerance to The Royal Agriculture Society, then on to meet Christine at The McAinshs, in Harpendon, then with the Family returned to Kenya where we lodged with The Woods who then went back to the UK. We went down to Mombasa where we stayed at the Diani Beach Hotel, and then north to the Aberdare Country Club, where Roger Chambers, the former Manager of The Carnivore, was the Boss. James Stewart, the Film Star, was also there. In September, I organised and hosted major Conference held in Glasgow on African Trypanosomiasis for the British Society of Parasitology. I invited Charles Davis (San Diego Medical School and ILRAD 1980) and his

wife Shirley as my special guests, all expences paid. We organised a reception at The Burrell in Pollock Park. We all returned to Aviemore in October. In December, I launched The VetTest 8008 on to the Market on the 8th December at The Farmers Club, opposite The Houses of Parliament in London.

I travelled in January **1990 (Picture Story p.376)** to Nairobi with George Urquhart and Peter Kennedy to review our Ovine Genetic Resistance programme at Muguga and talk about trypanosomiasis at KETRI. Sue and Martin Gill and Family visited in February and we all went down to Largs to Lavarinis for Knickerboker Glories. In July, I attended an ITC Council Meeting in The Gambia with Tony Davies, in the now absence of Ian McIntyre. In August, we holidayed to Majorca at Puerto Pollenca in the Villa Cati with a swimming pool. We had a hired car and toured around to Formentor, Porto Cristo and to Manacor where we visited the Caves-Cues del Drach with the famous Cavern of the Dragon, and the Fishhook Caves, and bought Majorcan (Manacur) pearls. Then for the October week once more to Aviemore. Then I gave The Stevenson Lecture in Citizenship “Africa is held captive by the Tsetse Fly-does Nature have the Answer?” at Glasgow University. Tony and I presented a Progress Report on ITC to the CGIAR in Washington on the 27th October. We had a great luxurious time. It was a busy year-Nairobi, The Gambia, Majorca, Washington etc.

Tony Davies, Chairman of the ITC Council and myself, Chairman of the Programme Committee, visited The Gambia in January in **1991 (Picture Story p.383)** to prepare and present a Progress and Strategy Review to an EEC Visitation Group. We shared a Villa and had a great time-Tony is an Excellent Chef-and The Presentation was a great success. Katie and Max went skiing with the School to France in April. In early May, Mike Stear and I went to Rome to FAO to discuss our Ovine Helminth Genetic Resistance Programme. Ian Cunningham from Trinity College Dublin was Head of Animal Health and I got to know him very well when he was Chairman of the ODA Animal Health Programme Advisory Committee of which I was a member-I was back in FAO Rome as a Consultant in October. On 31st May I gave The Sir William Weipers Memorial Lecture “Out of Africa. Genetic Resistance: Natures contribution to a Global Problem” at The University. Two large Lecture Theatres linked for Sound and Vision were required-it was a sell out. I used a life sized stuffed Blackface Sheep, as I was not allowed to introduce a live sheep which was my original plan. The stuffed Sheep, Muriel, is still with us in Ledcameroch. It was all a big success!!! We all returned to the Villa Cati, Porto Pollenca, Majorca, for our Summer Holidays and then back to Coylumbridge for the October Week.

In **1992 (Picture Story p.390)**, I travelled to an ITC Council Meeting in The Gambia with Tony Davies in February (I had quite serious side effects from a new anti-malarial (Larium) that I had been recommended which excarbated my anxiety depression and which I have suffered from ever since). Betty Svendsen,

founder of The Donkey Sanctuary received her Honorary Degree from The University in June-I had nominated her. In July we went to Arran to visit the Melvilles, both Doctors-he later committed suicide-their children were at GHS with ours. We then drove to Centre Parcs near Nottingham for a week. In August, we had our last Great Family Reunion with Jacky and Paddy *et al* from the USA, Judy, Roe and Pete, Mick, John and Mhairi *et al*, Granny and Grandpa, and my Mum, coming to Ledcameroch. As usual we went to Aviemore for the school week in October. Granny died on 5th November 1992.

1993 (Picture Story p.393): In July-August we flew to the USA. First to Jackie in Philadelphia where we visited Colin Johnstone and his partner John. We went to a range of Iconic Sites in Pennsylvania, including Longwood Gardens, DuPont Historic Corridor at Brandywine Creek, and Hershey (Theme) Park. We then travelled in an extended Limo up to New Jersey to John and Christine Preston where Max got a Big Bertha driver. Christine and Katie, Max and Kirsty went into New York for the day, sailing round the harbour. In October, for a change we had a weekend at the luxurious Turnberry Hotel in Ayrshire. Max and I played two rounds of golf. At the end of the month, Kirsty had her first riding lesson from Rosemary Brown and David Ralston.

In **1994, 1995 and 1996 (Picture Stories p.399, p.405, p.414, respectively)** we started to go to the Algarve, Portugal, to the west of Faro towards Lagos around Portimao to really luxurious Villas with large swimming pools, in August, hiring a car. In **1994**, we stayed at a beautiful classical villa called the Quinto de Facho, next door to The President's villa near Alvor, then in **95/96** in a very modern villa the Casa Tanoeiro near the magnificent Le Meridien Penina Hotel just west of Alvor and Portimao where we often lunched. Golf was played at the Alto Golf Club at Alvor and at Penina. We regularly went north to Monchique in the Mountains (Foia is the highest peak at nearly 3000ft) where we regularly lunched at a wonderful restaurant on the road up/down, enjoying Cataplana and Seafood. We went west to Lagos and Cape St Vincent, the southern-most extremity of the Iberian Peninsula, and to the ancient castle at Silves. Nicky McLeod, Max's friend, came in 1996. They were great Family holidays.

In **1995 (Picture Story p.405)**, Kirsty met Arran, a 17 hand Police Horse at the Indoor Riding Facility at the Vet School. Then, Shuni (**p.412**), a Clydesdale x Thoroughbred joined the Family-Terry Feeley our next door neighbour and former heavyweight boxer gave it to us. His wife Eva was the niece of the Ommer Sisters whose Music School I had attended as a teenager. Shuni was stabled first at Auchineden, and then moved in 1996 to Easterton Stables both run by Rosie Brown and David Ralston. Kirsty and Christine disappeared up there for the next several years. In July 1995, we all drove down to Jeremy Wood's wedding in Gloucestershire. Max went to Madrid by Bus in October with GHS on a Rugby Tour, and Katie started Glasgow University (Highers 2As

and 3Bs). In **1996 (Picture Story p.414)** Christine and I flew down to Sean Preston's Wedding in Jersey in July. Jimmy and Christine Armour were there. We celebrated our 20th Wedding Anniversary at The Crinan.

In August **1997 (Picture Story p.420)** all five of us went to Sun City, South Africa, Business Class/Economy-Christine and I ended up in Economy and Katie, Max and Kirsty in Business. There I received the Pfizer Prize at The WAAVP Conference (\$7500). Max started Strathclyde University (Highers 4As and a B). The highlight of **1998** was in October when Kirsty, Christine and I visited Coolmore Stud (**Picture Story p.429**) in South West Ireland and Kirsty met the famous Stallion, Saddlers Wells, one of the greatest Stallions of all time.

We had a busy year in **1999 (Picture Story p.434)**. It was Katie 21st Birthday. She got a brand new metallic blue Peugeot S21 KTM. I went to Lisbon with Frank Jennings where I was examiner for Jorge Atougiua's PhD Thesis. Katie graduated with a 2.1 Honours BSc Degree, nearly a First, in early July. We attended a reception at the Principals (Sir Graeme Davis) Lodgings prior to Graduation and then we all went to the Yes, a wonderful Restaurant owned and chefed by Ferrier Richardson-a regular haunt; Peter Martin, a Skye Man, was also there. Later that month Christine and I went to The Royal Agricultural Show at Stoneleigh. There I received The RASE Medal for Research and was presented with the Bledisloe Cup by Prince Andrew, The Duke of York (**p.8**): it was a huge Cup which we took back to Glasgow on the Plane with its own seat. Kirsty achieved 5 Highers all at A level. In September, Christine and I went to the luxury Isle of Eriska Hotel for a long weekend to Celebrate our Anniversary. I, along with Peter Holmes was awarded a "Gold Medal" for "Contribution to Research in Africa" from the OAU/ISCTRC. We also attended a magnificent dinner marking The Vet Schools 50th Jubilee of joining Glasgow University. It was held at the magnificent venue of Kelvingrove Art Galleries and was one of the biggest Dinners ever held in Scotland. In October we went to Coylumbridge.

Max was 21 in **2000 (Picture Story p.443)** and got an upmarket Pool Table covered with a Blue Baize. In May, Christine and I had a long weekend at a Hotel at Kilfinnan near Otter Ferry on the east banks of Loch Fyne-recommended by Norrie Wright. Kirsty was offered a place at both Glasgow and Edinburgh Vet Schools and of course accepted Glasgow-her interview was used as part of a GUVS PR DVD. In June, Daupne Sheldrick The "Orphan Elephant Lady" received an Honorary Degree at Glasgow University. I first met Daupne and her husband when I had been flown down to Voi by the Kenya Game Department (**XI:3 East Africa-Kenya 1963-1965 Hunters Antelope**). The Sheldricks had founded The Tsavo National Park, one of the biggest Game Reserves in Africa. I proposed Daupne for her Degree and did the Graduation Oration.



Dauphne's Orphans

We attended Kirsty's Prize Giving at Glasgow High School and then flew to London for Morag Preston's Wedding-Jimmy and Christine Armour were there-John and Christine Preston were not talking to one another. In July, James McAinsh received a Fellowship from The University: I proposed him and did The Oration. Max went to Banff, Canada to work for the Summer and drove down to Vancouver, Seattle and then to Las Vegas where he learned that big tips to the waitresses led to identifying the slot machines likely to pay out. Jacky, Jenny and Mike visited and we all went down to Micks' in Carlisle for his 80th Birthday. Christine and I visited Katie who was working in a bar in Portree, Skye for the summer-following Peter Martin. In August, Kirsty, Grandpa, Christine and I flew to Slovenia for a week to see Granny's homeland and to visit Lipica the home of the famous Lipizzaner horses (**p.449 *et al***). Kirsty had riding lessons every morning at the Kobilarna Stables established in 1580. Her horse for the week was a magnificent Lipizzaner called Pluto. We also visited the Adriatic Coast and Trieste, as well as the Famous Skocjan Caves. In September, we attended the opening of Tony Davies's son-in-law Malcolm Weetman's new state-of-the-art Veterinary Practice by Judy Dench in London. Malcolm and I became fellow Directors of Tony's Nutraceutical Company VetisFa in 2010 and in 2014 renamed Natural Veterinary Nutrition (NVN Ltd). In October, Kirsty started GUVS. In 2000, I was diagnosed with mild Type 2 Diabetes mellitus.

Grandpa and Kiwi came to stay with us in **2001 (Picture Story p.457)**. Christine and I went to The Alumni Ball on the 6th of January to celebrate the 550th anniversary of the Foundation of The University on the 7th of January 1451. Chris Campbell, the Chairman of Dundas and Wilson, and his wife were our guests. There was a Champagne Reception held by Cunard. Mum died in April. I gave the funeral oration and we left to Gracie Fields singing 'Now is the Hour', one of her favourite songs. We all went back to Lesleys in Milngavie. Shuni retired to Killiekrankie but appeared again with Kirsty and Tom in 2012 in Hampshire. I got a Merit Award from Sir Graham Davis, the Principal. Christine and I went to London in April to celebrate Paul Sayers OBE. We stayed at an exotic hotel in St Martins Lane and went to The Lion King Musical. In July, Katie graduated with a Post-Graduate Teaching Diploma (Highest Level) at Strathclyde University, while Max graduated with a Double First-Accountancy and Business Law also at Strathclyde. Grandpa was there and then we all had lunch at Ferrier Richardson's new restaurant in St Vincent Street. Max joined

Arthur Andersens, The Classy Accountancy Firm. After the collapse of Enron which brought about the downfall of Arthur Andersen, he joined DeLoittes. Christine and I then visited the Prestons in their magnificent new mansion in Kent-it had a helicopter pad. Christine P. hated it and they soon moved back to London. Also in July, we went to the National Arabian Horse Show for the first time at Merris Wood near Guilford as a guest of Amjed Al Jafferay, whom I met at The Golden Jubilee Hospital in Clydebank-it was owned by the Abu Dhabi Investment Bank. It was at The Golden Jubilee that I met the brilliant Pradeep Ramayya who introduced me to the real E World (**cf. XI:8.4**). At the Horse Show, we met Angela and Alisdair Gillies, a wonderful couple who loved Switzerland, who were from Skye and lived in a fantastic house in Milngavie, as we found out later. He was a well known Scottish singer, TV Personality and Dentist and a Gold Medalist at the Mod. We also encountered and got to know well John Wright, retired Chairman of The Bank of Scotland. Also at the Horse Show we were introduced to a lot of wealthy Arab Aristocrats. We attended this event over the next 4 years and became well known-Christine became one of the Prize Givers. This activity was related to my position as Director of External Affairs involving Business and Fund Raising. In September, Princess Anne opened the Weipers Centre (**p.149**). In November, Jim McLatchie invited me to Ibrox and Kirsty and Max and I went to Murrayfield to the Scotland v Argentina Rugby Match.

In January **2002 (Picture Story p.463)** we cleared Mum's house. In February, I attended the Scottish/Australian Association Lunch (Secretary Freddy Small) in Edinburgh. There were Australian and Scottish Sports Officials there and I suggested that Glasgow be considered as a host for the Commonwealth Games-I like to think that I helped to sow the seeds for 2014 when the Games were held in Glasgow to great acclaim. I attended The Wooden Spoon Dinner in February and Rona Mackie's Beatson Sports Dinner in April where I bid successfully for a Scottish signed Rugby Jersey. Both were at the Hilton. In March, I attended the Senate Dinner at The University. I used this Dinner in my position as Director of External Affairs to entertain VIPs eg., Rangers Directors, including, Campbell Ogilvie, and Chris Campbell, Boss of Dundas and Wilson, Scotland's No1 Law Firm, both introduced to me as usual by Graham Paterson. Once again we went to the British Arabian Horse Show at Merris Wood/ Guilford in July. In August, Kirsty went to Australia for 10 weeks for work experience and holiday. Kirsty and I attended the Scottish Australian Association Dinner in Edinburgh. I had become a member, again in my position as Director of External Affairs. I had taken a table and invited several members of staff. We went mad at The After Dinner Bidding. Kirsty and I took a taxi there and back.

I sold Mum's house, 40c Buchanan Street on 20/9 for £211,541 having bought it in 1978 for £22,000. Mick died on 31 December after a long illness with throat

cancer. Christine, as usual, was absolutely fantastic and she was up and down the road to Carlisle on numerous occasions in Mick's last few months.

Mick was buried in Carlisle on the 7th January **2003 (Picture Story p.465)**. I took delivery of my metallic silver Mini Cooper S (SH52 NPJ) on the 9th. In March I attended the opening of the Hampden Sports Medicine Centre by Sir Alex Ferguson with whom I had my photograph taken-John MacLean, Doctor to the Scottish International Football Team, was the Director; he was head Doctor at Glasgow Commonwealth Games, 2014 (**p.150**). We had a great Easter Friday Family lunch at The Black Bull in Killearn now owned by Ferrier Richardson, with Katie, Max, Kirsty, Peter, Grandpa, Christine and Kiwi. Christine and I attended Liam and Catriona Morrison's Wedding at the Grosvenor Hilton in Byres Road. In April, Kirsty, Christine and I went to the luxurious Vila Vita Parc Hotel, Armacao di Pera in the Algarve.

With the retiral of Sir Graeme Davis, our inspiring Principal, I proposed to The Faculty Management Committee, of which I was a member, that we should give him a sculpture of a Curlew (he was a Twitcher) to be done by Helen Denerley, the amazing Sculptor who worked with disused farming tools/machinery-Flick Hawkins ran the Rheuart Gallery in Rhue, Ullapool where her work was displayed. She had let us use a life-size horse, which Helen had sculpted, at the official opening of The Weipers Centre by Princess Anne in 2001 (**p.149,462**). The result-The Curlew was a wonderful 3 foot high figure costing £1500. We housed it at Ledcameroch as our Dean refused to pay for it. I could not return it so we kept as a family heirloom, then in 2014 sold it back to Flick Hawkins. We attended the British Arabian Horse Show, as usual, this time held at Fontwell Park Race Course in Sussex in June. Then Katie and I went to Michael John Gettinby's Wedding in St Andrews, as Christine was in hospital for an operation. In June, Katie also accompanied me to The Shaw Melanoma Dinner at The Hilton where I successfully bid £500 for the Rangers framed signed Jersey of The Triple Winners-League Cup, Scottish Cup and The League (2002-2003) under Alec McLeish. In 2013 we gave it to Angie MacIntosh to raise money for the Dunvegan Football Club. Kirsty passed all her Degree exams and I did the Oration for Harry Pfaff's Fellowship which I had proposed.

I retired on the 30th September: I suppose our life style started to change progressively. Initially we did a lot of International Travel. I had quite a few "irons in the fire"-Fund Raising for The New Small Animal Hospital, my initiative and my baby, then The Gambia Horse and Donkey Trust with Stella Marsden and Heather Armstrong *nee* Brewer, then Human African Trypanosomiasis with Peter Kennedy, and progressively with Tony Davies and VetisFa Ltd and ImmunoVet followed by Natural Veterinary Nutrition Ltd (NVN Ltd)(XV:6.3, **p.294---**), then my Greenhouse and Garden and so on with **Our Story:-----**Christine had another operation in October 2003 and at the end

of the Month (26th), we had a Kenya Reunion with Bill and Anna Jarrett, and Freyda “Davies”, Morann Paterson and “Gladys” Holmes-she had dropped Gladys, at the Malmaison Hotel. Christine flew to Philadelphia Business Class in November. I went to the Scotland Holland match with Max on 15th- Scotland won 1-0

From **2004 (Picture Story p.475)** onwards more details are provided in My Moleskines. We held Kirsty’s 21st Birthday Party at the Moat House Hotel on the banks of the Clyde at Finnieston next to The Armadillo. One hundred and fifty attended mainly Vets Students. Davie Nicol, my minder from the Vet School also came. Cost approx. £10,000? My speech ‘The Ages of Kirsty’ (**XIX:7.4**) went down well. We stayed the night at the Moat House. Sandy invited me to The BEVA Lunch in London where once again I met Princess Anne, and John Preston took me to Highbury for the Arsenal-Southampton football match. John is a Season Ticket(s) holder. At the end of the month, Christine and I went through to Edinburgh to the Trails who stayed in George Street. Then John and I went to the Scotland v England Rugby match at Murrayfield-I won’t give the result. Max and I went to the ‘Glasgow with Style’ Reception at the Armadillo, then we had a major dinner together at the nearby Shandon Buttery, with Havana Cigars. I used to be very well known there (**cf., XI.3**). I had my official farewell to the Vet School at Garscube on 29th March. As well as presents, I was given a bound Album of pictures of colleagues and The University and Garscube, and their written momentos. My Farewell Speech is in **ARCHIVES XXI:4.11** with pictures filed in Album **XXI:7.4**. On the 1st of May we all (Christine, Katie, Peter, Kirsty and Max) had Dinner at Roganos-and then Max went to Australia. June as usual meant the British Arabian Horse Show this time at Lingfield Park Race Course in Sussex. Then we had lunch at Roganos with the Armours to say farewell to Julie Fitzpatrick and Husband-Julie had just become Director of the Moredun Research Institute in Edinburgh-the first female, another of my proteges, although she would not admit it. In September, Jenny Henehgan visited and with Kirsty we went to Lomond Shores and had a sail up Loch Lomond, then she and Kirsty went to Paris. Over the phone

October-November (28th-16th) Christine and I had 3 weeks in Australia with Max. We flew Emirates Business Class from Glasgow to Dubai then to Melbourne via Singapore. We left on **Wednesday** and arrived on **Friday** morning. We stayed at a great Hotel, the Sheraton Towers, Southgate, on the banks of the Yarra River. On **Saturday** we had a walk along the river. It was Derby Day at Flemington Park Race Track and there were thousands of Race Goers catching the train from Flinders Street just across the river from our Hotel. Contacted Max and Grif Dalgleish several times-the two Stuarts are here Reid and Carmichael. Everyone is at the Derby. Max put the bets on -Christine picked Plastered and Count Ricardo to win and each way, over the phone-guess what a 1st and a 3rd-what a start!!! We had a snooze and in the evening had a wonderful

reunion dinner (prawn ravioli) with Max in a fantastic Restaurant overlooking the river and many happy revellers returning from the races. Max was in terrific form. He is doing well socially and professionally. Home by 12 and Max took a taxi to rendezvous with friends.

On **Sunday** we had a great cruise down the Yarra and had lunch aboard and in the evening had a wonderful Dinner with Max at the Scusmani Italian Restaurant in the Southgate Complex followed by a large Black Label at the Sheraton. On **Monday**, Max hired a fantastic Australian Saloon and we drove along the coast down to the Mornington Peninsula to the Willow Creek Vineyard where we had lunch with Griff and his wife Jodi and his two daughters Holly and Jessica, and the two Stuarts. We then adjourned to Grif's "Ranch" with his 8 horses and 2 dogs.

Tuesday Melbourne Cup Day. Grif Dalgleish took us to The Melbourne Cup Race Day. At 10am, there was a reception in our Hotel. Christine looked stunning and turned many male and female heads, and Max arrived. Then a crowded Train from Flinders Street to Flemington Park. An estimated 120,000 people were there-all dressed to kill. There were Bands and Bars everywhere. The wind blew Christine's hat away! Saw a painting of a horse called Kiwi that had won The Melbourne Cup in the 1980s. Into the Members Dining Room-Griff and Jodi, Gordy and Megan, John (Griff's Boss) and Karen, the two Stuarts and Vanessa-one of the females was Jodi's sister-now to the Champagne and Gambling. Max handled all the betting. He and Christine were very successful; he was going to and fro with wads of money. I was fucking hopeless-I had lost my touch of yesteryear in Kenya-Frankie Detorri finished 7th on Mamool in The Melbourne Cup, The Big Race. What a Fantastic Day!!! We got a second with Vinnie Roe, the Irish horse. On the train back to Melbourne I led the Singing with everyone on board-We Can Walk 500 Miles!!! At the Sheraton 2 Black Labels and a Club Sandwich and then to bed. What a Marvellous Experience!!! Melbourne is a beautiful city.

On **Wednesday**, we flew up Virgin Blue to Sydney with Max to be met at the Airport by James McAinsh and his Lexus. We stayed with James and Gloria for two nights in their beautiful flat at Pyrmont overlooking the beautiful Balmain Cove with bright blue water and grand yachts. We dined at a great Italian Restaurant across the Bay and viewed the amazing spectacle of Illuminated Flying Bats. On **Thursday morning** we viewed the Bay and Max took Christine to Darling Harbour and Manly. I went to Sydney Vet School where We, Stuart Reid, Dominic Mellor and Stuart Carmichael had an excellent meeting with the Dean Leo Jeffcoate, and David and Jenny Hodson *et al* and left SR and DH to draw up a master plan for the next 10 years, with Glasgow and Sydney to become Global Vet E-Hub, now a forgotten Dream. Drinks with Christine at 6pm at Reuben Rose(RR)'s, former Dean at Sydney and his new wife Kate. We

then had a fantastic Dinner at the Melting Pot, Glebe with 16 people, including James and Gloria. I had stuffed squid and then rabbit and great wine-terrific. RR reckons that I have been visited by God after I told him my story about Stuart MacQuarrie (The University and Rangers Minister) and about animal bereavement, and about surreal experiences at Loch Fyne and Skye. David Hodson, Stuart Reid and I gave a vote of thanks-A Wonderful Evening-Christine looked Radiant and I told them she was the most beautiful woman in Scotland.

Next day to The Hunter Valley. James dropped us off at Max's pad. As usual Christine cleaned up-what a huge TV. We left at 3pm in fantastic car with satellite navigation-Max is a great driver. We crossed Sydney Harbour and arrived at Cypress Lakes, Hunter Valley via The Pacific Highway and had a great drink overlooking the lake. We had a double-storied cabin, really well fitted out and ordered a Gourmet Meal not bad. On **Saturday** a White Limo, organised by Max arrived for us at 10am after a wonderful full breakfast. We had a fantastic Chauffeur-Hans who left Vienna when he was 3. We visited three Vineyards before Lunch, tasting great wines-Verdhelo, Chardonnays +/-Oak, Gerwurztraminer, Cabernet Sauvignon, Merlot, Shiraz and mixtures thereof. A great lunch of Fish and Chips at Hannigans, then to Peppers and Wilkisons-bought 19 bottles of wine and a box of alcoholic Ginger Beer Chocolates. Christine bought a pink baseball hat, a fleece and a great light blue top at the Pros Shop then an excellent dinner starting with Vodka Cocktails. **Sunday** morning was beautiful, starting with a mighty breakfast, a beautiful walk through the golf course. The Hunter Valley is beautiful-hills and valleys and lakes and vineyards. Max was superb and did everything.

Max drove us back to Sydney to his flat. In the afternoon, we booked into the amazing W Hotel (Woolloomooloo). It is a converted old Warehouse on a Shipping Wharf, close to the Harbour, quite different from anywhere we have been to or imagined. Our Room had an upstairs bedroom and bathroom. From our room we could see the famous Harry's Pie Shop, which had served the nearby Naval Base for over 60 years-the pies were not as good as Christine's. The Hotel had a fantastic Cocktail Bar-great Kentucky Bourbon Cocktails-it was so dark that it was nearly impossible to read the Cocktail Menu. In the days ahead, we toured Sydney on foot, and by motor boat and ferry and had amazing Lunches and Dinners.

On **Sunday** evening we sat on The Wharf in the Manta Ray Fish Restaurant and had a wonderful meal and watch the motor boats cruising by-some truly luxurious. On **Monday** we walked through The Botanic Gardens, MacQuarries Point, to The Opera House, round Circular Quay to The Rocks with beautiful views of The Harbour and a huge range of Ships and Joggers, then a stroll down George Street-everything was so clean. In the evening Max took us to The Summit Restaurant which revolved on the 47th floor of Australia House-

wonderful view and food (crab). I had an incredible experience-I went to the loo and while I was having a tinkle and singing 'Smile Awhile' someone in one of the toilets started chanting/singing Allah-Allah-Allah. I quickly exited but could not find our table-was I in heaven or hell – then I remembered we were revolving-later I observed an Asian Gentleman emerging from the Toilet. Max was marvellous as usual and Christine and I had a philosophical chat. **Tuesday**-It was raining so we borrowed a W-umbrella and walked through Hyde Park to Market and then to Darling Harbour. We visited the Aquarium-The Platypus, The Sharks and The Dragon Fish-the Biologist in Christine had a Field Day. And then had a ride on The Monorail x2 circuits and in the evening we went to an Indian Restaurant on The W Quay (average) with Max and then had Cocktails in The W Cocktail Bar.

Wednesday was a beautiful day. We walked through The Botanic Gardens. Christine was in her element identifying all the plants-to Circular Quay/Harbour and took an exhilarating cruise with beautiful views on The Ferry to Taronga Zoo. A highlight was The Bird Show of Free Flying of Eagles, Owls etc., absolutely fascinating!!! Beautiful views of Sydney and The Bay Area!!! Back to Circular harbour to watch the world go by and have a lovely meal (Linguini/cacciatore-Christine, and I had prawns/spaghetti). We had a great chat-Christine is renewed by Sydney, her son and perhaps even me-we have found ourselves again-we have shown we can do it!!! We strolled back to The W. We are starting to know Sydney quite well. **Thursday**: The McAinsh Day: Christine met Gloria at the Victoria Buildings at 10.30am: I did my "Art of Travel" in my Moleskine and had a Beef Curry Pie and Mushie Peas at Harrys for lunch-pretty average compared with Scottish Mutton Pies, then I cleared up the forks thrown away by Chinese Tourists, then had a pint of VP. Christine returned at 3.30 and obviously had enjoyed her shopping Safari with Gloria and had purchased a very sexy Denim trouser suit. Then we had Dinner with the McAinishes at the Blue Ginger Thai Restaurant in Balmain-James, Gloria, Jamie, Jane (his Girl Friend), Fiona and Florence. We emerged to a tremendous storm and torrential rain and flooding. Christine was in Tremendous Form. **Friday**-Gloria called off a possible visit to Manly. We caught the Ferry at 11.30 and had a beautiful crossing at the stern of the ship and then went walkabout through the Corso, the main thoroughfare to the South Beach in Manly. It was beautiful and we had a pint of VP at Kelly's Bar. I took a picture of Norman Drummond's Institute for Children. Near the harbour, Christine bought a Chinese Top-the sales assistant was a half caste Aborigine named Campbell and she had visited Glasgow where she had relatives. Sailed back and wandered around The Opera House-it is magnificent. The Harbour was full of boats but there was masses of space and blue sky. Tonight is the night! Dinner at Doyles in Watson Bay. With Max we were picked up by a Water Taxi at the W Wharf by Captain Nick. We had wonderful views of the City and were landed on the beach which was full of

people and watchers. We had a great table overlooking the beach. We had Sea Fish Chowder, Garlic Prawns, and Lobster Mornay, Salad and Chips Perfect-Out of This World!!! We took a Water Taxi back to the W Warf and disembarked in front of all the diners A Wonderful Evening!!!

Saturday 13 Nov: Max arrived at 10am and we set off for The Blue Mountains with sandwiches, crisps and water. We viewed The Mountains-The Three Sisters (Katoona)-there used to be seven, then down the Mountain by trolley to visit the mines of yesteryear. We then did lots of shopping and then Max drove us to the Jenolan Caves and we viewed the magnificent 'Cathedral', possibly not as impressive as Slovenia. Back to Sydney, a round trip of 400km, and an interesting but average Dinner at Ottos, an Italian on The W Wharf. On **Sunday**, Christine and Max climbed The Sydney Harbour Bridge and I met them for lunch. Christine was exhilarated by the experience and took wonderful pictures. We shopped down George Street, a platypus for Kiwi, and had a beer at a beautiful bar overlooking the harbour, returned to Max's flat to collect the Hunter Valley Wine for Grandpa and Katie, and took a taxi to the W. Revived by a large J&B and a Great Ceasars Salad in the 540 our room, and started to pack. **Monday** 15 November, our last day. We had lunch at the Manta Ray with James and Gloria. I had a delicious Queensland Flounder with a bottle of white-Brockewood-shared of course. We had a great chat, all in great form. We signed out at 4pm and between 6 and 7pm had 2 large J&Bs in The W-Cocktail Bar-I told the waitress I was a Presbyterian and could not drink before 6pm. She kept looking at me in a very strange way. A beautiful BMW came at 7 and we had a Great/Emotional Farewell with Max. What a great great Guy-he is a privilege to have him for a son, a friend and a fellow Ranger's Supporter. Checked in, shopped, had a large Dewars and departed. 15 hours to Dubai and 8 to Glasgow on the 18th November-excellent flights. Great welcome from Kiwi, Grandpa, Judy, Jackie and Jenny. Kirsty came home from college early-she looked great and was in wonderful form.

Max has really settled well in Oz. We loved Oz!!!!

On Saturday evening 20th November, we had a great party with curry, cigars and Mortlach. Jacky left for Philadelphia on the Monday. On the 3rd December, I had a wonderful Long Farewell Dinner at the University with great speeches from Jimmy Armour and Ewan Cameron-with Norrie and Graham Paterson. My speech went well – Jimmy was born in Iraq and I wondered if he was a Shi-ite!!!(XXI:4.12----GOODBYE!!!!). We had a Great Christmas and Christine's Birthday. I had gone shopping for Christine with Katie and Kirsty-Gucci Bag, shoes x2, Cape and Dress, Negligee, Cook books x2, Flowers and Chocolates etc., I got Mortlach etc., we drank lots of Champagne, and we watched The Family Videos from 1986 onwards-Fantastic!!!(Grandpa needed wheelchair).

New Year **2005 (Picture Story p.490)**. We celebrated with Grandpa and Kiwi and Karaoke with Max Bygraves and Sydney Devine-Christine wore her sparkling New Year Top with a Great Bra. Kirsty went through to Edinburgh with Tom then to Las Vegas. They returned on New Years Day for a great Roast Beef-Mickey and Kiwi had a great time together and we got some terrific photographs. Katie came down with Peter on Wednesday the 3rd and went back up on the Friday, rerouting via Inverness because of landslides caused by appalling weather. We had a beautiful Spring with daffodils flowering in early February. We continued to dine out regularly eg., at The Buttery with Christine and Katie in February, Roganos-a 7 hour lunch with Douglas Hutchison at Roganos, La Bavarde with Christine-Tony, the owner, is retiring-we will miss him, and John and Christine Preston at the Ubiquitous Chip in March, and the Beatson Dinner in April where I met Drew Drummond.

We visited Katie in Skye in 1st April. Christine drove-I was impressed-she is a great driver and for once I was able to appreciate the Magnificance of Loch Lomond, Glencoe, Glen Garry, Lochalsh, Eilean Donan Castle with the Cuillins on the horizon, over the Sea-Bridge to Skye, and Raasay-what a Wilderness of Mountains and Lochs and Rivers. Katie's House in Portree is Katie-great views and only 5 minutes from The Square. We had a wonderful meal at Lochbay Seafood Restaurant at Stein-no Lobster, but Oysters, other Shellfish and an array of White Fish plus a Hugel Gewurztraminer for £20. Next day we visited Talisker Bay, a magnificent stony Bay surrounded by Cliffs with The Cuillins to the East. Then to the village of Carbost the home of Talisker Whisky Distillery founded in 1830 and a great lunch of Haddock/Scallop Chowder with great Chips in the Old Inn Pub. We then drove north through Struan to Dunvegan, where we visited Dunvegan Castle, home of The MacLeods; the sunshine was intense and blinding with beautiful views of The Macleod Table Mountains-North and South. Then to Stein and Skyskyns Tannery- a fascinating e-business. Back to Portree by 5 (Great news Celtic 0 Hearts 2) and Dinner at The Restaurant in Portree Chandlery-halibut-average. April 3 Sunday- read the papers then to Peter's at Glenhinnisdale-a great Family and a good Lunch. Peter then took us on a tour of their 2000 acres-2 ruined castles of The MacDonalds, Flora MacDonald's house where she died, 80 cattle and 800 sheep on the Trotternish Peninsula, south of Uig-Katie and Peter's house will be built there. In the evening we had a carry out curry. Back to Glasgow on Monday with Katie. Kiwi was delighted to see us and Peter came down from Skye on the Thursday. In May I lunched with Drew Drummond at Roganos, and, after the Weipers Lecture, Christine and I had dinner at The Chip with Tony Davis.

Kirsty graduated on the 2nd July. I participated in the Service in The University Chapel delivered by Stuart MacQuarrie after a reception at the Principal's Lodgings with Katie, Peter, Tom and Christine and Graham Paterson. Graduation-I was one of the two Professors leading the Procession-as usual the

Vets were fantastic and Kirsty got a great Cheer. Lunch then Swearing In. In the Evening we all took a Mini-Bus to the Graduation Ball. This was splendid and we shared a table with The Marshall Family and I got up for the Congo-“This is the Way to Amarillo”. Home and we sat up drinking Glenlivet. All the Girls looked Fantastic. A FANTASTIC DAY!!!

Then Kirsty and Katie went to Australia and New Zealand to visit Max and Bec, who were now an item, for 6 fabulous weeks returning in August. At the end of the month we visited The Woods at Tewin Wood in The Cotswolds-A Great Reunion!!! We should make Ailsa a Dame. In September, we attended the Arabian Horse Show at Guildford at Merris Wood. We had our Anniversary dinner at Roganos while Kirsty and Tom (McGinley) went to Prague. On October 12-16th, Christine and I went to Dubai. We travelled Emirates Business Class-a Chaffeur to the Airport-Exciting! Champagne, Champagne, Champagne! Bruce Hamilton, the Pilot knew The Trails (Ian Trail was also an Emirates Pilot). We stayed at the Shangrila on the Sheik Kayed on the 42nd floor-beautiful room. Next day, taxi to Emirate Towers to buy Jimmy Choos high heels and then to The Emirates Hotel to the 51st Floor to The VU Restaurant with a Bar on the 52nd Floor-the highest in The Middle East with a wonderful view. Christine had Lobster Assiete-amazing and I had Paella stuffed Giant Prawn-terrific and then Pepper Ice Cream-wow. Met the young Chef who was from Sydney-his cooking style was similar to Ferrier Richardson. Back to the Hotel. Christine and I had doubtful tummies and so cancelled our Dinner on Dhow Cruise. On Friday we had lunch by the pool-Samosas and Caesars Salad. We met Mike Wilson who worked at Fords in Nairobi and lived at Wilson Airport (1958-63). Then to Old Dubai Museum. It told the story of the history of Dubai and the Arabs-it was impressive and very interesting. We walked along the creek and viewed the Dhows and the impressive Skyline and Architecture. In the evening we returned to the Vu Restaurant Bar-Dry Martini's and sample Restaurant Menu and then to the 52nd Floor Shigrila Balcony Bar. Saturday was a lost day-gastric flu? Cancelled lunch at the Al Mahara-under water the Restaurant. Sunday morning at 4.30-feeling fine-mistake with bill?-(resolved in Glasgow). Great-no Emirates Taxi but got to Airport-interesting breakfast with Managing Director of Shell, Port Harcourt, Nigeria-excellent Flight-no Emirates taxi at Glasgow but quickly resolved by lovely Emirates Lady. Received a real welcome home from Katie, Kirsty and Kiwi and a great Buffet Lunch, with Jackie and John-Good to be Home!!! We had a wonderful reunion lunch on Saturday 29th October at Ledcameroch with the Armstrongs, The Reids, The Hutchisons, Angela Gillies and Rhona McLeod and Family and Kirsty, Grandpa and Kiwi (p.493)-everyone was very special and great to know-curry puffs, prawns, crumbed chicken, cheeses, amazing desserts, and pork sausages. Heather sent a lovely E-mail of thanks-she loved Kirsty, Kiwi and the curry puffs. In November Kirsty got the job she wanted in Lincoln.

On Tuesday December 20th we got a wonderful surprise-Max and Bec phoned from the hall in Ledcameroch-Christine and I were overwhelmed-what an incredible Christmas Present-Katie and Kirsty knew all about it and arrived on the Wednesday. Christmas Day-Sunday was Fabulous with Fabulous presents especially from Max and Bec-a camera for Katie and a CD player for Kirsty etc., etc., and a Fabulous Turkey. We gave Max and Bec a Helicopter Pub Crawl around The Hunter Valley. Kirsty, Tom and Mickey arrived on Boxing Day.Next Day we had a Fantastic Tennis Match with Kiwi, Mickey *et al* at Thorn Park-Wednesday at The Smiths and on to Hogmanay/New Year with everyone including Grandpa. We had a great Rib of Beef-The Boys First Footed. We had a wonderful Festive Season (**It is on DVD XXI:7.2.3**).

In the first week of **2006 (Picture Story p.495)** on Monday 2nd January we all went up to Aviemore where we rented a Villa in the MacDonald Hotel Estate for Katie and Peter, Max and Bec, and Kirsty and Tom, while Christine and I stayed in the MacDonald Hotel nearby. There was great eating and drinking at the Ski-Ing Doo on Tuesday evening, great lunch at The Old Bridge on the Wednesday which Peter paid for, and a massive Carry-Out Curry at The Lodge in the evening, and then played Yahtzee which Christine won and I cheated. Activities included clay pigeon shooting, quad biking, walking on ice around Loch Morlich-played Ice Baseball-we have some great pictures-and going up the Cairngorm Railway. We returned to Glasgow on Thursday the 5th-Great welcome from Kiwi. Max gave us all a card with wonderful sentiments. He gave Katie and Kirsty £900 each. And at 4.30 we saw them off at the Airport-Katie and Peter returned to Skye. We had a Tearful, Wonderful and Marvellous 16 days. **We have such strength and love and generosity in Our Family.** On Sunday, Kirsty left for Lincoln via Tom in Cumbria. Christine suggested she used The Passat-we hoped she remembered that it was Diesel.

In February, Christine and I had dinner at Nick Nairns at the Lake of Menteith Hotel and stayed the night. We had a great lunch of a Fantastic Hamburger and great Chips, but Dinner was disappointing. We went home via Strathyre, Crianlarich, Dalmally, Inveraray, Loch Fyne Oyster Bar-huge Lemon Sole, and Jenners (Balloch) with a Giraffe for Kiwi. In March we stayed a Saturday night at our old haunt, The Crinan Hotel where we had an excellent lunch and Dinner, meeting David Livingstone a friend of Charlie Andersons. There was a heavy snowfall overnight. On the road home we were held up in the Mini on the A82 at Tarbert, the Balloch road, for an hour, then needed a push turning from Thorn Road into Whitehill Road-everyone was so helpful, then Christine and John had to dig us from Ledcameroch Road into the house. Great welcome from Kiwi who got a lion from the Gift Shop Loch Fyne.

In May, Max and Bec did their Helicopter Pub crawl round The Hunter Valley and, on Friday the 12th Christine flew to Philadelphia for Mike's graduation and

I drove down to Lincoln to visit Kirsty in her first job in Practice. Next day we climbed up the steep hill to Lincoln Cathedral-it is absolutely awesome, Structurally and Spiritually-and Kirsty lit candles for Granny, Grandma and my Dad. On the Sunday, we went to Home Base and spent £300 on her garden, including a Lawnmower, and worked on the garden until I returned on Friday. Between times we had a fantastic Dinner at the Old Bakery, Frogs Legs, Wild Boar and Italian Red Wine in Slovenian Casks. We visited The Practice where Kirsty works-it was very impressive! On Saturday, Christine returned without her case, with great pictures and stories and looking as always very beautiful. In early June, we had a GOM lunch at Buchanan Arms-Norrie, Jack and Hugh and Myrtle joined us later (p.497). Our Garden with the Azaleas, Rhodies, Irises and Acers etc., looks absolutely beautiful.

On Saturday 1st July, Stella Marsden *nee* Brewer received her Honorary Degree at Glasgow University. Stuart Reid now the Dean of The Vet School held a memorable Dinner on the Friday night at The University in The Melville Room. Stuart MacQuarrie presented an excellent Service and The Vets were Brilliant at Graduation-loud Cheering!!! and Ewan Morrison graduated at last (Ivan and Sheila Morrison's son). After graduation we hosted a Reception and a wonderful Dinner, Curry Puffs and Prawns etc., at Ledcameroch for the Brewer Family, Stella and Heather *et al* with Stuart MacQuarrie *et al* and Uncle Johnny in support. I organised a Limo for Ian McIntyre and his wife Ruth to come up from their home at Shandon and arranged for them to be returned via Loch Lomond on a beautiful Saturday evening. Christine looked beautiful throughout the day, in a Cream Suit for The University and a colourful dress for the evening. I gave a good little speech as did Ruth McIntyre despite advanced Parkinsons Disease. There were over 30 guests-Stella Marsden and David, her husband, and their two boys, Heather, her husband Garth and one of her daughters Rachel, Grannie, Ann Varley, Lorna and Husband, Rose Pettie and Husband, Rosemary and David, Joanne Ireland, Stuart MacQuarrie, Sandy Love, Douglas and Pippa and Felicity Hutchison, Drew and Rhona Drummond, Paul Hagan, The McIntyres, Kirsty, Grandpa, Kiwi and Mickey. In July, I met Pat Cobbe, a Behaviour Counsellor, and we formed a strong professional relationship over the next few years-recommended by Brenda Capaldi, my Diabetic nurse at Gartnavel. In August, 27/28 Christine was 6 hrs in A&E at the Western with her knee-almost certainly damaged ligaments-John was with her and I stayed with Kiwi. I met John McCormick former Head of BBC Scotland, at his house in Hyndland, to sign RSE fellowship papers in support of Norman Drummond of Drummond International.

We had our 30th Wedding Anniversary on 8th September. I gave Christine Mikimoto Pearl and Sapphire necklace and we went to Crinan for the weekend. I then had a Pacemaker implanted on 23 September-Henry Dargie at the Western. Judy and Tim then visited us and we had a wonderful party. On the 14th October,

Grandpa went into Erskine and Katie and Peter flew Emirates Business Class-we upgraded Peter, to Australia to visit Max and Bec. On their return, we gave them a present of the Mini Cooper S (SH52 NPJ) in which they drove back to Skye. They have it to this day and it looks as good as new. In November, we donated £75 for Major Ron – Donkey at GHDT. On 4th December Kiwi had 3 epileptic fits-the Small Animal Hospital-the Senior Neurologist Jacques Penderis was brilliant!!! On the 9th Christine, Katie and Peter specked Christine's new BMW 320D Estate Diesel. On Sunday the 10th, we had a wonderful Lunch at Ledcameroch with Katie and Peter, Margaret Martin and Anne Wardrop-Curry Puffs and Prawns-Christine looked beautiful.

Christmas 2006-Kiwi is home and in great form. Kirsty and Tom came on Tuesday the 19th. We had a great Christmas. Kirsty, Tom and Mickey arrived on the 19th December and Katie came on the 22nd. On Friday 23rd we had Turbot-wonderful and on Christmas Eve we had Quails for Dinner. On Christmas Day, Christine's Birthday, Christine was overjoyed with her Mikimoto earrings, her Mont Blanc pen and her Registration number T25 CMM for her new BMW. I got, a Treadmill, all Sergeant Bilko DVDs via Jackie in USA-Fantastic, and the girls got a massive array of presents. We, including Kiwi and Mickey visited Grandpa in Erskine, Kiwi was great and Mickey was his usual self. Christine looked absolutely beautiful. Kirsty and Tom returned to Lincoln on the 27th-sadly, and Katie went back to Skye for the New Year.

We, just the two of us, had a great Hogmanay and New Year-**2007 (Picture Story p.503)** with a meal of roast rib and champagne and Bunnahabhain. We called Max in Oz, James McAinsh in Oz and Charles in San Diego. In late January, Katie and Peter came down from Skye and we had a very good meal at the Wild Bergamot in Milngavie, and then we had a malt whisky session with John who was dog sitting. Katie was looking great and for her Christmas got a Sony T50 and a Sony Printer etc. On the 22nd Christine and Heather Armstrong went to Mrs McIntyre funeral. In February, we took delivery of the BMW 320D Estate and had lunch at Roganos. Easter-Kiwi is looking great and is in terrific form as is Grandpa. Christine loves her BMW, Katie is also in terrific form and has been down a few times –she loves the Mini Cooper S which we passed on to her. Kirsty is struggling a bit in the absence of Tom who is taking a year out in Oz. Max and Bec have left Australia on a World Tour eventually to New York via China, Indochina, South and East Africa, including Kenya and The Carnivore, and Glasgow-sounds great. At present, the garden has been and is Magnificent, the daffodils, the acers, the azaleas, the magnolias etc. Peter Kennedy's book 'The Fatal Sleep' has been launched; there is a great photograph of me at Nguruman Escarpment in Kenya - I bought 12 copies-Christine and Katie liked it. In May (13-15) we went to Loch Melfort Pier and Harbour with Kiwi-Wonderful !!! After Christine she is my Best Friend. She is a great looking Dog with a splendid figure-17-19kg-jet black with just a few dashes of white on

her chest and paws. She has amazing eyes-huge and beautiful at times-small and narrow when she needs persuading. She is full of fun and likes to interact, contemplate as well as play with her numerous toys and is a talented footballer. I drove the BMW both ways to and from Loch Melfort. What a great car!!! I drove well. Kiwi was a great passenger. We had lunch at Crinan: the Aberdeen Angus ribeye with Duck Fat cooked chips was outstanding. Kiwi enjoyed the chips and was really well behaved. The Loch was 5 miles north-the accommodation was fantastic and location beautiful-Sauna, Jacuzzi, heated tile floor. Kiwi loved it-great view, great walks. Next day we returned to the Crinan for lunch. There were lots of yachts passing through the Canal and a Vital Spark (a Clyde Puffer). The whole scene was beautiful! The owner of Loch Melfort Pier was a Dane, John Chrislieb with a Dutch wife. He was originally a pilot and had worked in Lagos, Kenya-knew Wilson Airport, and The Gambia. We returned on Sunday via Loch Fyne Oyster Bar. What a Great Weekend!

On the 24th May we travelled down with Kiwi to Kirsty in Lincoln. Next morning, Kirsty and Christine took Kiwi and Mickey-real friends, for a walk round Hartsholme Park and Kiwi had a wonderful time running free with Mickey. Then we went into town despite the heavy rain. We visited Lincoln Cathedral-it is Magnificent! Christine and Kirsty lit 3 candles for my Mum and Dad and for Granny Allen. I went into one of the many small chapels and said a prayer for my Mum and Dad and had a short chat-it was all spontaneous and very moving. We had a fantastic lunch at Browns Pie Shop which was on the very steep hill, a tough climb, leading up to the Cathedral. I had a Rabbit Pie in a gravy of Elderberry, Leek and Onion-Fantastic!!! Christine had Steak and Kidney, Kirsty, Beef and Stout-Wonderful!!! Next day Saturday, we visited the Garden Centre and spent a fortune then spent the afternoon working in and on the garden. We had a wonderful meal at The Old Bakery where it is reputed that Tom Hanks could not get a Table when filming Dan Brown's Da Vinci Code in The Cathedral. It was fantastic-the service, crab bisque, veal, cheese, port and a great 12% Bordeaux. On Sunday, I watched the Monaco Grand Prix (Alonso 1st and Hamilton 2nd, with Massa 3rd) and Christine and Kirsty went shopping, as they did on Monday-back to Glasgow on Tuesday. The car was fantastic as were Christine and Kiwi. On Thursday, James McAinsh arrived and we took him to the Weipers Lecture delivered by Ron Roberts-he was crap! Self indulgent!

On June the 20th, Jackie arrived; a highlight was with Christine and Jackie reviewing letters and photographs in The Allen Archives with the help of a few MacCallums. On Friday 29th June we attended a Graduation Dinner for John Preston's Honorary Degree from The University-I had previously got him a Visiting Professorship. It was hosted in by The Principal Sir Muir Russell and his charming wife Eileen. My Christine looked stunning! Christine Preston, Sean and Morag were there, as were the Hutchisons and our Dean Stuart Reid. It was hosted in The Melville Room overlooking Kelvingrove Art Gallerys, a view of

Ibrox Park and we could see as far as The Isle of Arran, as pointed out by The Principal. On Saturday, we attended the church ceremony at the University Chapel performed by Stuart MacQuarrie, The University Chaplin and Rangers Minister, then coffee at The Principal's Lodgings. Christine looked beautiful and was beautifully dressed. I was second in the Graduation Procession after John. It was also The Vets Graduation-they were Brilliant. Stuart Reid's Oration was Outstanding and at the end we processed round the East Quadrangle led by a Piper who was Alastair Campbell's brother (Tony Blair's Advisor). Later that day we-Kiwi, Katie and Peter, had a celebration for the Prestons-Christine, John, Sean and Morag and we were joined by The Hutchisons-Douglas, Pippa and Felicity, and Stuart Reid and Family, The Gettinbys, Sandy Love, Stuart MacQuarrie with Uncle Johnny and Jackie in support etc.-amazing food-Curry Puffs and Prawns and Smoked Salmon and loads of Champagne-Bollinger. One Black Mark-I took a group photograph but forgot to put a spool in the camera-my little speech on The Prestons is good reading **(XXI:4.14)**. It was a Party to remember.

Ian McIntyre remarried in July.

Off on the 3rd to Skye with Katie and Kiwi. It was beautiful through Glencoe and then we had a stop at Eilan Donan Castle before Kyle of Lochalsh. I got a great picture of Katie and Christine with The Cuillins in the distance. Next we had a magnificent lunch at Loch Bay-after 6 Oysters grilled with Cheddar, I had a large whole Grilled Lobster, Christine had Lobster Bisque and John Dory, and Katie had Cheddar Oysters and Scallops, and a bottle of Rose and finished outside with Irish Coffees-Kiwi watched from the car and we had a window seat. On the Thursday, we went to Talisker Bay with Kiwi, what a vista, and then Christine and Katie visited the Talisker Distillery at Carbost, while I watched Kiwi, and we had lunch at the Old Mill Inn-rather disappointing. Home the next day with Katie. Jackie arrived from London and more numerous Malts, left for Philadelphia on the Monday 9th July. Kirsty and Mickey arrived on Saturday 14th. We had a great week. On Thursday, We, Christine, Katie and Kirsty dined at the Wild Bergamot in Milngavie again and had an excellent Dinner-I had Turbot/Lobster Ravioli!!! What a fantastic Family!!!

On Friday the 27th July, Max and Bec arrived via Kenya and Zanzibar on their World Tour. Unfortunately no luggage but fantastic to see them. What a wonderful couple!!! They are so well matched and get on so well together. Later on Peter and Katie arrived, and John and Lewis. Champagne all round. Then on Saturday we all went to Roganos. Cocktails-Dry Martinis and then a private room for a farewell Dinner for Max and Bec with The Murrays (Christine, Katie and Peter) and the Wardrops, Anne and Jess, John and Patricia. Champagne, Oysters, Lobster and Grand Dessert. It cost a £1000, including tip. We had a memorable evening and a Karaoke in the Large Taxi home. On Monday Max

and Bec went to London for a Visa interview and then up to Skye-back on Sunday then through to Edinburgh then off to New York on Wednesday 8th August where they worked for 2 years.

The turf was cut for the start of the new Small Animal Hospital and I had lunch with Grif Dalglish, Sandy Love, Stuart Carmichael and Stuart Reid at No 16 in Byres Road. Kirsty and Tom arrived by air early morning on 17th August and went down to Helensburgh for Tom's Dad's 60th Birthday, then flew back to Lincoln on Sunday. Grandpa had a big operation and battled back to recovery as usual over several weeks. For our Anniversary on 8th September, I bought Christine a Mikimoto Pearl ring in Laings Jewellers in the Arcade. I had lunch with the Grumpy Old Men in Massimos. Peter and Katie came down 14, 15, 16th September and Kirsty left for New Zealand for 3 weeks to meet up with Tom in Auckland. She flew Air New Zealand Club Class-absolutely fabulous with a full length bed. They rented a great Camper Van-deposit £2500 on The Barclaycard and then toured the North and South Island. I booked Continental for us, including Katie, to visit Max and Bec in New York, leaving on March 21 to 31st 2008-I had to pay up front. Then, later in September 28, 29, 30th, we had our 50th Alumni Reunion at the Hilton-I had helped to organise this with Os Jarrett and Norrie Wright 1957-2007. We lived up to our reputation and Billy Wright spent the night in Maryhill Police Station Jail. An excellent book for the occasion was collated by Sheila White with some help from me (XXI:5.7). There were tours of The Vet School and The University-Tommy Kane the Senior Bedelis said I was wonderful. On the Saturday Evening, we had an excellent Banquet at The Hilton where we stayed the Night. Tony Garland, Oz and I gave speeches-playing for Rangers-we arra people" etc., and I sang "I Belong to Glasgow". Christine was beautiful as ever. Christine battles on with Grandpa staying with John at the Royal Alexandra Hospital in Paisley. Katie came down to look after me from the 5 to 19th October and then Christine came home.

In December, we took Kiwi to The Crinan for the weekend and had a great walk along The Canal. Kirsty and Tom and Mickey came on the 20th and Katie on the 21st. We all went Carol Singing at the Concert Hall-great! We had a great Christmas Day-Granny's Gammon and Egg Toasted Sandwiches and Champagne for breakfast. For her 60th birthday I bought Christine a Diamond Necklace (£1400 at Laings Jewellers which I regularly used along with Saul Bercotts, also in the Arcade) and a huge bunch of flowers (£200). I think she was really overcome: Christine still looks very beautiful. Over the years I bought another Baum Mercier and 3 TAT Heurer watches, 2 for Christine and 1 for Kirsty. We had a great lunch of Smoked Salmon, Smoked Duck and Sausage Rolls then went to Grandpa at Erskine. I really enjoyed it and he really looked happy. Everyone was in great form-Christine, Kiwi, Mickey, Katie, Kirsty and Tom, even me and we took some great photos. Home to open presents-Katie gave Christine a most beautiful Poem she had written about Mother, Kirsty gave

her a “real” Star - I got a Wii Nintendo. We had a great Dinner of Chicken, much better than Turkey with great wines, champagne and malts, as did Kiwi and Mickey. I felt like a young man inside.

At 60 Christine is Beautiful-A wonderful wife, mother, daughter, masterchef, Mr Fixit, World Class Common Sense-I can say no more! Another thought was what wonderful people Katie and Kirsty are-I hope they get the right man and have children and have a happy life. I think Max has got the right woman-As I update this in 2016 these wishes have all been fulfilled.

Christine donated the first 5 years of her Pension to the New Small Animal Hospital-a Major Gift of £12,820.51-top of Donors Wall “Professor Max and Mrs Christine Murray and family”. It was for the Clinicians Social Area-it has a huge Glass Roof with our Philosopy “Work Hard-Play Hard”.

Now to **2008 (Picture Story p.508)**: We had a great New Year with Katie and Peter, playing Tumble Down and 10 Pin Bowling on the Wii Nintendo-Christine was brilliant as was Sydney Devine. I had lunch with Norrie at Las Rambles. Don his elder brother died last week-he was a wonderful gentleman-I wrote a “good” letter to Moira his wife: we had a great chat plus 3 bottles of wine. I have known him for over 50 years – he has been a great friend! We went to the Boat Hotel at Boat of Garten from 13-15th January to rendezvous with Katie and Peter and celebrate Katie’s birthday. The weather on the road up the A9 was pretty threatening with slush on the road and snow on the Mountains. We had a pit stop at the Falls of Faskally near Pitlochry-they were beautiful in the snow. The BMW was brilliant as always. We had a Suite and Peter and Katie had a Superior Room. We toasted Us with a 15 year old Macallan. At Dinner, I had Cullen Skink and a Sirloin-OK. Christine decorated our room to celebrate Katie’s 30th Birthday on the 12th. After breakfast, we drove to Loch Morlich which was frozen-Christine, Katie and Peter had a great time playing on the ice-the surrounding Cairngorm Mountains were covered with snow-just breathtaking. We met 2 great Jack Russells. Then some shopping in Aviemore-I tried to buy a sledge, then back to Boat of Garten for Cocktails at 6pm. Katie opened her presents, she and Peter were in great form and we had more Macallan, then to Dinner of Salmon Fish Cakes, a Burger and Champagne and Irish Coffees. Next morning I had a full Scottish breakfast. The forecast was bad so we left for Glasgow and Portree at 10.30am, via the nearby Heather Garden Centre. There were lots of Snow Ploughs about, but we got back to Glasgow with no hold ups to a Great Welcome from Kiwi and Uncle Johnny. Then The Flu-Fucking Awful! Christine got it too but she is much tougher. Kirsty and Tom and Mickey arrived on Saturday 19th January. Great to have them! They had Dinner at The Hotel Du Vin, Devonshire Gardens on Tuesday-great (part of her Birthday Present on the 24th) and I booked for us on the 16th February. On

Wednesday, we had a great walk to Thorn Park with the dogs and tennis balls and then Kirsty's Birthday Dinner of Turbot and Asparagus. On Thursday, Kirsty's Birthday, we had a Birthday Party Breakfast in a Decorated Kitchen, then Tom and Kirsty went through to Edinburgh to The Dick. On Friday, we all had a great walk in the Thorn Park with Kiwi and Mickey, then they left for Lincoln.

The major event of the year was the Family Visit to New York to Max and Bec. We flew out on **Friday** the 21st March. We Christine, Katie and me got up at 4am and checked in at 6 on Continental at Glasgow Airport to New Jersey. There was a delay of 90minutes. We got seats 31A, B and C, the smallest seats I have ever seen. Unfortunately, there was a huge man in front of me whose seat collapsed when he sat down-the plane was full but they eventually got him a seat, then Champagne. The flight was 7hr and we arrived just before 1pm, then 2½ hrs of HELL going through emigration. Emerged at 4pm to a beautiful Black Limo organised by Max-the Chauffeur nearly gave up , then 35 minutes to The Essex, an iconic Hotel at the bottom of Central Park. Went to our room which was already occupied, I raged back to Reception and we got an amazing room overlooking the south end of Central Park-awesome!!! Had a whisky and waited for Max and Bec. They were in great form-Max is Master of the Universe and Bec complements him completely as Mistress of The Universe. We walked up beside Central Park to West 70th Street to Patsy's-what a fantastic restaurant with a great atmosphere- great food: Pizzas, Shrimp linguine, Caesars Salad-\$120 for 5 of us. We returned to the hotel for cocktails-Magic Moments!, then Katie left with Max and Bec to stay in their flat at Trump Place at 180 Riverside Boulevard/West 66 Street with a wonderful view of the Hudson River. On **Saturday**, we watched the joggers, and horses and carriages jogging around Central Park. Then the Manager called full of apologies for yesterday's chaos and sent us free breakfast in our room and a Limo to take us to Max and Bec. We watched a stunning video of their African Safari. We had a superb lunch of Eggs Benedict and fries and Belgium beer for \$14 a head at the Luxenburgh just round the corner from Max and Bec, and then sauntered down Broadway, and bought books at Barnes and Noble. Next the girls went to Tiffanys, FAO Schwartz, Times Square and The Rockefeller Centre where I used to work. Cocktails at 6pm, then the Hotel Limo to a Great Mexican Restaurant-marvellous Guacamole. Walked back to the Hotel and shared a whisky. Kirsty and Tom arrived-they had been upgraded to Business Class-a great start- 2 great days!!! Then **Sunday** the 23rd, Max's Birthday. We all, Max and Bec, Tom and Kirsty, Katie and Christine, had Max's Birthday Lunch at the Trattoria Dell'Arte. I had excellent Goat's Cheese Ravioli. The waiters all sang Happy Birthday. In the evening we went to the Broadway Show Wicked, not really my taste. Christine and I walked home and had a Club Sandwich and Shrimp Caesar in our room (5V). **Monday** 24th , Jenny and Dean arrived and we (not me) went Ice Skating

in Central Park-I had a great Hot Dog and Sauerkraut, then we wandered up to the Boathouse, a wonderful Restaurant on the Lake. Fortunately, we got a round table for 7, with a beautiful view right on the Lake with Manhattan as a backdrop. Christine and I had Halibut and Chips-fabulous. The Gang went to the American Museum of Natural History, beside The Park. We met up with Max and Bec for Cocktails, and then got two taxis to the Strip Steakhouse on 12th Street at the bottom of 5th Avenue. What a Fantastic place with Fantastic Food-what an Evening!!! We had a huge Fish Platter to share. Lobster, Crab, Shrimp, several types of Oyster, Clams, Razor Clams, Tuna, Squid etc.,etc., and wonderful biscuits-Tom and I finished off the Oysters-Steaks all round Chateaubriand, Rib Eye-14-16oz-vast range of Goose Roast Potatoes, French Fries, Spinach in Truffle etc., etc., a great Californian Pinot Noir and an amazing huge Chocolate Cake-14 layers and Cheesecake-awesome!!! Taxi back to The Essex and Rose Champagne. Christine and Everyone were in Great Form!!! Just a Marvellous Day!!! Thanks. **Tuesday** 25th, a quiet day I phoned Elisabeth McIntyre about Ian's Obituary. The main events were visits to FAO Schwartz and Tiffanys where we bought a Diamond Necklace and Earrings for Katie (\$2000). Next day **Wednesday** 26th, Peter McIntyre has asked me to write an Obituary for his Dad-I will contact Jimmy Armour *et al.* We took a Grayline bus tour from Central Park around New York. We went up the Empire State Building to the viewing platform on the 82nd Floor-wonderful views of New Jersey, Manhattan-Rockefeller Centre, scaffolding for the replacement of the Twin Tower Building catastrophe. Then the bus to below Wall Street to board the Staten Island Ferry-to Pier 17 to catch the last Ferry-sailed round Ellis Island and The Statue of Liberty and then back under The Brooklyn Bridge. Great lunch of Crab Cake and Chips, then back on the Bus to Central Park via the United Nations. In the evening, a very average meal at a Japanese-Tom was the Host. On **Thursday** 27th, Jackie arrived and all the girls went shopping. Early evening we had Cocktails and we all went to The New York Rangers Hockey match at Madison Square Gardens. Prior to the match we all met up at Harringtons Sports Barr. Max and Bec arrived with their friend Donna who they had met on their Safari through Africa. Donna and her husband Flint whom arrived later in the evening were from South Africa. He was into High Finance-they came to Max and Becs Wedding in 2010. It was a very exciting match in which The Rangers beat Jersey 3-2, with a late goal. I had a Hot Dog and a Beer during the game and Christine bought me a Rangers Top. Off to Jimmy's Cocktail Bar and had a great Dry Martini and an excellent chat with Donna. Then across 53rd St to Bills-a wonderful place with a pianist who played all my tunes. I joined others around the Piano and had a sing-song and a dance with Christine and a chat with a Russian Financier-home at 2.30am. **Friday** 28th, great sleep but very tired and did not get up till noon. Jackie and Paddy arrived. Christine looked magnificent in her stripe suit. Excepting me, all visited the Museum of Modern Art. In the evening, with Max and Bec (but minus Jackie and Paddy) we went to the Jean

Jorge, a 3 star Michelin Restaurant-ties and jacket very hot-I fainted and was taken to St. Lukes Roosevelt Hospital where I was kept Friday and Saturday nights under observation. I was released on Sunday morning, back to the Essex, then to the Airport and then to Glasgow. **THE END.**

Then Peter and Katie visited Max and Bec in New York on their own

On the 18th of May, we had a memorable Sunday at Alisdair and Angela Gillies whom we met regularly at The Annual Arabian Horse Show. There was a wide range of interesting people-Doctors, Dentists, Artists and Musicians etc. I got involved in a Discussion on Inspiration-A Dentist said it was the most inspiring discussion he had ever had. At least I can still rise to the occasion. In late June, I called Roger Hutchison in Raasay, the author of **Calum's Road (XV:4. P.291, XIX:5. P.586)** in Raasay and told him how Ronnie MacKay of Skye/Erskine-a friend of Christine and Grandpas had given me a copy of his book and with Heather Armstrong we were inspired to initiate with his approval the building of a Calum's Road in The Gambia. All Hell Broke Loose in the West Highland Free Press, The Scotsman and The Herald and then The BBC. The BBC made a documentary for BBC 2 called Gambian Goals with Rona MacLeod (BBC) and Stuart Reid about The Gambian Horse and Donkey Trust (GHDT) on how Glasgow was helping with the health of the Donkeys and Horses, and the Education of the Children (**XXI:7.2.2 DVD Box File Gambian Goals**) . For the children, I had got Football Kits from Alex Ferguson, Manchester United, as well as from Rangers, Celtic and Hibs; they played a special version of football-basketball sitting on Donkeys. Calum's Road was completed over the next year. David Sutton and Patrick Pollock, two Glasgow Vet School Equine Vets whom I had got involved with the GHDT attended, and Patrick, a World Champion Piper, piped in the Opening. Heather did an amazing job!!!

On Sunday 27th July we went up to Skye. It took us many hours as the Loch Lomond road was blocked and we had to go via Helensburgh, Arrochar, Inveraray, Dalmally, Tyndrum-280 miles and 8 hours to Portree. Fortunately, the weather was glorious and the Old Man of Storr really stood out. Next day we went up to Staffin with Katie and had a great Cappacino at Columba 1400, of Norman Drummond fame. The Harr was surreal, then we crossed the Quiraing to Uig, visited The Pottery and spent money, then to the Uig Hotel for a good lunch and a beautiful view of the harbour and the MacBrayne Ferry. Back at Katie's: we had Black Pudding and Venison Burgers for Dinner-her garden is beautiful. On Tuesday we visited the site of Katie and Peter's future home, what a beautiful view, then had a good lunch and chat at Margaret and Peter Senior's with Iain and Aunt Sheena, Then to the very quaint Wool Shop at Waternish-spent money. In the evening we had a drink at the Bosville with Katie and Peter, and then an excellent meal next door at Harbour View-Crab Cake and Scallops and Black Pudding. Walked up and down hill from and to Katie's house. On

Wednesday it was showery-we went to Armadale and had lunch at the Shed on the pier-I had Crab Salad and Christine and Katie had Langoustine Salad. We visited the shop nearby, The Ragamuffin, and spent £220-bought a Lion for Max, a Sean Connery Bunnet for me, and a beautiful Scarf for Christine. On the road home dropped in to Kinloch Lodge-Lady MacDonald's famous Restaurant for a look-beautiful but pretentious. In the evening with Peter drove round to Loch Bay, for a pint at the Stein Inn and then next door to The Lochbay Seafood Restaurant-say no more-for Oysters, Lobster and Turbot-Wonderful Evening!!! Next day, Thursday 31st, back to Glasgow, just over 5 hours and 210 miles. Three Wonderful Days-Great Food-Great Place-Great People!!!

Max arrived on Saturday 2nd August from New York via Heathrow at 10.20 am, to a wonderful welcome from Kiwi and left on Sunday 3rd at 12.30 am for New York via Heathrow. Judy visited in late September. We had a great lunch. Two of her books, Encyclopaedias, are to be raffled at Erskine. On the 23rd of October Peter phoned and asked me for Katie's hand in marriage. They came down on the 24th and bought their Engagement Ring; it is beautiful. Everyone is over the moon. The wedding is to be at Skeabost Country House, Skye on the 24th July 2009. I bought Christine an Eternity Ring from The Ringmaker in Gordon Street.

On the 17th December, I bought a Red Alfa Romeo Mito Veloce from Western Motors in Edinburgh to be delivered at the end of March 2009. Katie arrived on the 20th and Kirsty on the 24th Christmas Eve. We had a great Walk with Kiwi, Mickey, Kirsty, Tom, Katie, Christine and me. We had a wonderful Christmas and Birthday for Christine. Grannies Breakfast-Gammon and Egg Sandwiches, then we all went to Erskine-Grandpa and Kiwi were the stars and we saw Ronnie. We opened our presents between 4 and 5. Christine loved her Gucci Sunglasses. Wonderful Christmas Dinner of Chicken and Champagne-Max and Bec called from Denver. On Boxing Day, Kauto Star won the King George at Kempton in Fantastic Style.

2009 (Picture Story p.511)-Christine and I and Kiwi had a quiet but enjoyable Hogmanay and New Year. From this year onwards our lifestyle started to change with more focus on Family Marriages and Appearance of Grand Children in Skye and later Australia and then Hampshire. Eating out gradually decreased and eating in became a challenge with MacCallums Fish Shop at Finnieston and Gillespies Butchers playing a big role. My efforts in the garden became less and less and it was left to John McCann. One of my great loves The Greenhouse had to be dismantled-it would have cost £25000+++ to rejuvenate, so my battle to grow Tomatoes, Cucumber and Sweet Peas ceased, although my love for Begonias marched on and in 2016 as I type they have been Magnificent!. I ensured that we always had fresh flowers from Petals in Crow Road in Crow Road, Tesco's, Morrisons, or M&S. My relations with Brian Forbes continued on from Milngavie in 1985 to Crow Road with my array of great ties, suits, jackets,

trousers, coats and shirts being regularly updated. I progressively became involved in writing my CV and Family Story, with developing Immunovet as a Director of VetisFa (later Natural Vet Nutrition Ltd) with Tony Davies and his Son-in-Law Malcolm Weetman, Human African Trypanosomiasis with Peter Kennedy successfully proposing him for a CBE, developing a love for i-Tunes which Katie, Max and Kirsty bought for me while I was in Gartnavel (cf., later), and of course my Love for Kiwi.

I started the Movie for Katie's Wedding in earnest: "**Katie's Journey**". Max and Bec became engaged on the 21st of March in Grand Central Park. He had a group of Friends across The Lake holding up Placards "**Bec Will You Marry Me?**" (p.511)-The ring cost £7500 in Laings in the Arcade in Glasgow. We went up to Skye to Skeabost to arrange Katie and Peter's Wedding-a great Manageress, Janet Allison. Then Katie and Christine collected our brand new Alfa Romeo from Edinburgh. I continued to feel unwell and eventually went to the Nuffield and was immediately sent to The Western where I was operated on for a PeriAnal Abscess on 29th April. It was all pretty serious and I required several operations in Gartnavel over the year during which I had a TURP (Transurethral resection of the Prostate) at Gartnavel and needed to have a urethral catheter for several weeks, carried out by a wonderful Surgeon a Mr Aitchison whom I introduced to MacCallums Fish Shop.

The Major Event of the Year was The Wedding, Katie and Peter- **Friday 24th July 2009**-Words cannot describe it. It was Amazing-Wonderful-Perfect. How lucky I/We are to have Christine, Katie and Peter, Max and Bec, Kirsty and Tom, Grandpa and Kiwi. The whole event was at Skeabost Country House Hotel, a Victorian Building, on Loch Snizort near Portree. We arrived *en masse* on Wednesday 22nd and got ready on the Thursday. Max was our brilliant organiser. On Friday 24th The Wedding: The Ceremony was very moving and was conducted by a tall Highland Gentleman, with a beautiful highland accent. Katie and Peter are obviously in Love. It was held in the Conservatory filled with Sunshine-the morning was overcast but the sun appeared to fill our day when The Ceremony started, with a view of the Loch, the Mountains and a wonderful clear Blue Sky. Katie looked beautiful as did Christine, Kirsty and Bec. Max was a brilliant commanding Master of Ceremonies while Tom was there with his fun and quiet sense of humour. Peter is a great Highland Gentleman, as is his brother Iain-I like him. I had several short rests. The meal was Frenetic-the dining room was Packed-my meal of chicken wrapped in Haggis was excellent. My Speech and Movie, **Katie's Journey** was fantastic (**XIX:7.2, XXI.7.2.2**), if I say so myself. The Projector, control, sound and huge Screen 10x7 feet set up by Max on Thursday was fantastic-very High Tech. It was a real *Tour de Force*, Laughter and Hugs. We then adjourned to the grounds of the Hotel that reached down to The Loch-the 'Skye' was an Amazing Blue-Heaven!!!-gathering for Wedding Photographs and Havana Cigars that I had

ordered from London. Later, I adjourned exhausted to our room from where I could view the dancing and listen to the Ceilidh. Next day, Christine hosted the In-Laws and Out-laws at Lochbay where I pre-ordered Lobsters. On Sunday, Christine drove back to Glasgow-she drove brilliantly-where we received a fantastic welcome from Kiwi and Mickey. What a great contribution the dogs make to our lives!!! What a wonderful Wedding with Amazing Weather. Christine-What a Lady and Max-What a Gentleman-he kept his eye on Everyone and Everything, including me.

On the 2nd of September Max and Bec arrived in Edinburgh from New York to stay-hopefully, and visited us next day. We loaned them our red Alfa Romeo. Katie and Peter went off on their official honeymoon on Saturday the 10th September to USA-San Francisco, Yosemite National Park, Las Vegas etc. We visited Max and Bec in Edinburgh in October-they rented a fantastic flat. Katie and Peter returned on the 24th and Max and Bec joined us for dinner. I had my last perianal operation on the 1st December. Max returned the Alfa and bought a Mazda from Arnold Clark's at Clydeside which he later sold to Lewis. For Christmas we had Katie, Kirsty, Max and Bec, Kiwi and Mickey, Roast Rib and Yorkshire Pudding-Christine's main present was a LapTop.

Hogmanay/New year **2010 (Picture Story p.516)** was a lovely evening on our own with 2 bottles of Champagne. On the last week of January, the 30th was Grandpa's 90th Birthday. Katie and Peter came down on Friday the 29th, Max and Bec came over next day, as did John, Mhairi, Lewis and Felicity who is a real attractive baby doll. Everybody except Kiwi went to Erskine at 3.30pm and sang Happy Birthday. Christine then prepared a feast of Grannie's Curry Puffs and Champagne at Ledcameroch. Everyone returned home on Sunday but not before Christine and Katie had raided Mother Care. Christine had her shoulder operation at Stobhill in March. Max had his 31st birthday and we took him and Bec for lunch at Harvey Nicols Restaurant in Edinburgh-an excellent lunch with Champagne with a view over Edinburgh. We then went to get Max measured for his Kilt etc. Max and Bec are to be married at the Brig O'Doon Hotel in Alloway in Ayrshire on the 3rd of June. Christine is making progress, she is very brave, but it is tough. Kirsty and Mickey arrived in early April and we all went up to Skye on 5th April (Monday). We stayed at the Marmalade just across the road from Katie. We all had dinner there-the bedroom was spacious and very Heath Robinson-the stairs were not level-for breakfast Scrambled Eggs and Mallaig Smoked Salmon-Great! Excellent lunch at The Cuillin Hills Hotel with a beautiful view of Portree Harbour and The Cullins. Wonderful dinner at the Harbour View-Champagne and Scallops etc., Kirsty was in great form. Then back to Glasgow on Wednesday with a great Chicken Burger at MacDonalds at Fort William, as usual. Mickey loves Kiwi-he is a remarkable little dog. Max and Bec came and stayed on Thursday evening. Kirsty and Mickey returned to

Hampshire on Friday and Max, Bec and Christine went down to the Brigadoon in Ayrshire to review the plans for Their Wedding, while I watched Kiwi.

Peter Maxwell Martin was born on Tuesday the 4th May at Raigmore Hospital, Inverness, 9lb and 5oz-A Mighty Baby. Christine was at the birth at 12.30pm. She was totally committed, positive and inspiring throughout-she would have made a great Doctor. We were all totally overjoyed!!! The Staff were impressive. We had driven up on the Monday and I had my birthday lunch at the Skiing Doo in Aviemore. We booked into The Premier Inn with Peter, just round the corner from Raigmore. Christine did not sleep from 4am, after a warning phone call from Katie on Monday, until 2pm on Tuesday-What an Amazing Lady. With Peter we had a Celebration Dinner at The Premier Inn and a bottle of Lansons. We had an excellent drive back to Glasgow on Wednesday 3 and 3/4hrs. Back up to Skye on Friday 14th May. John was babysitting Kiwi. Good weather, good drive with Chicken Burgers at Fort William. Peter Maxwell was looking great as was Katie. We then booked into The Cuillins. Janet Allison, the great Manager of The Skeabost Hotel, was now Manager of the Cuillins-we got the best room looking out to The Harbour and The Cuillins. In the evening, Christine cooked an excellent meal of Scallops from MacCallums, and pancetta. Later on in The Cuillins Whisky Bar we shared 3 Malts, Glenlivet, Bunnahabhain and Caol Ilo-£30. Full breakfast and then to Headquarters, then I watched the Scottish and English Cup Finals in our hotel room and Peter took me for a spin in the family Porsche. We had two wonderful Grouse and Sodas in The Cuillins served by Alisdair Emmerson, Peter's cousin (I later found out that he had only charged for one), then Christine cooked wonderful Rib-eyes from Gillespies, the Butchers, at Anniesland. Over May we had numerous Skypes and photos from Skye-Peter Maxwell is doing great and Katie is looking beautiful.

Build up to The Wedding: Bec and her mother Anne came on Saturday 22nd May, and Bec and Emily her 6 foot red head Best Maid came the following Wednesday-what a great personality. On Saturday, Kirsty and Tom and Jackie, then on Sunday Katie, Peter and Peter arrived. The following Tuesday Max and Bec came for lunch and then set off for The Brig O'Doon. Next day Christine and I dropped Kiwi off at kennels near Cumbernauld and returned to Ledcameroch for a M&S lunch then we set off for Brig O'Doon: Tom and Kirsty in their large 4x4 Red Mitsubishi, The Martins in our BMW and Christine, Jackie and me in The Alfa. The Brig O'Doon is fantastic as is Tam O'Shanter's Bridge across the River Doon. The marriage-dining-dancing area was huge and fantastic. We had a big Evening at a nearby Country Hotel with a big US Table, a big Oz Table and a huge Murray Table, including Anne and Jess Wardrop, Jonathan, Patricia and James-Scampi and Chips then our whole team sojourned to the Brig.

Thursday 3rd June: The Big Day-The Wedding. It was Wonderful Occasion, The Ceremony, The People, The Light-a beautiful sunny day-Max and Bec looked amazing, Katie and Kirsty beautiful Bridesmaids, Christine in tears and in purple/pink-what a hat! She was absolutely beautiful. Then to the Gardens by the River and the Bridge. "Paper" Doves were released after Christine had phoned Air Traffic Control at Prestwick Airport for clearance. A "Central Park-New York" confirmation with a Display of Placards on The Brig O'Doon Bridge "**Bec Marry Me**" (cf., p.511,517). The meal was excellent-Haggis and Neeps, then Stuffed Chicken and lots of Champagne and excellent red wine then the Speeches-Jess was first class, Best Man was brilliant, Max was Fantastic, delivered with Humour, Pathos, Humility, Emotion and Love. I thought I was good but Max was World Class. Subsequently, a String Quartet played and then a great Scottish Band in the evening. Peter Maxwell attended all events. An evening of Monte Cristo Havana Cigars, talking, circulating, singing, dancing, as well as a great discussion between me, Norrie Wright and Fraser Wright, drinking Bunnahabhains. The end of the evening was fantastic with everyone 'Walking 500 Miles' preceded by several Choruses of Auld Lang Syne. Finally upstairs for a Bunnahabhain with Jess and Anne. Christine was absolutely Beautiful-a different class.

Next morning, smoked salmon and scrambled eggs and then off to Troon for lunch at MacCallums Oyster Bar with the Wardrops-another beautiful day and a great lunch-I had 6 great Oysters followed by Lobster and Chips-Peter Maxwell was a Star! We had forgotten the flowers and returned to Alloway on our eventual road to Glasgow. In the evening it was Pizzas and Malts. Max and Bec went to The luxurious Prestonfield House then spent their Honeymoon touring to the very most southern point of England and to the most northerly point of Scotland. On Saturday, Kirsty and Tom returned to Hampshire, and on Sunday the Martins returned to Skye, and Jackie to Philadelphia

What a Wedding!!! It was Magnificent!!! Onwards and Upwards!!!

Katie and Peter and Peter Maxwell came Down on Friday the 24th June. I had lots of smiles, verbal exchanges and several "wee" nurses. What a wonderful Boy!!! Then safely back to Skye on the following Monday.

On July 6th, we attended the Opening of My Small Animal Hospital by John Swinney, Cabinet Secretary for Finance in The Scottish Government. The SAH was conceived by me in 1998 with the support of Norrie Wright, Our Dean, and designed by Stuart Carmichael. It is absolutely Fabulous. We donated £12,000+ from Christine's Pension to the large Social Facility which has a Glass Roof surrounded by glass: it exudes my belief of the importance of Space and Light and at the entrance there is a Plaque flagging the Murray Family and our motto **Work Hard Play Hard**. Katie and Peter Maxwell came down from Skye from 17-22 July. What a beautiful, handsome, happy boy-he loves music and his

Granny. I think he likes me and I can carry him African Style on my hip. Beautiful weather! Off to Skye on Friday 13th August. We had a beautiful day and great Chicken Burgers at MacDonalds, Fort William and then drove straight to the Cuillin Hills Hotel. Then round to Ascrib Place and an excellent M&S Boeuf Wellington for Dinner. Peter was great, screaming and laughing on his Musical Bed. Max and Bec arrived around 2am. Next day Katie walked round with Peter to the Cuillins and we all had lunch-Peter, Iain, Margaret (The Martins) and Peter, Max and Bec, and went to the Portree Highland Show-Iain Martin was one of the organisers. I had a chat with a Highland Cow. Then we had a couple of pints at the Marmalade and then to Ascrib Place for a Carry out Curry and then Bec drove us back to the Cuillins. Sunday morning Christine walked round to Katie's and Bec came and picked me up. With Katie and Peter Maxwell we left at 1.30, made good time to Loch Lomond and then were held up for about 1½ hours apparently due to the knock on effect of heavy traffic on the road to Balloch-according to Katie. We then shared a carry-out Pizza at Ledcameroch. On Monday 16th August, Kirsty and Tom arrived-I picked them up at the airport, then Peter came down. On Wednesday, they all went through to Max and Becs in Edinburgh-returned with Max and Bec on Friday and Christine cooked a wonderful Family Dinner of Prawn Ramekins, Chicken and Upside Down Cake. On Saturday, Max and Bec returned to Edinburgh for The Tattoo. Tom and Kirsty left on Sunday for Hampshire via Heathrow-they are buying a house in Liss-£200k and need a £50k deposit-Sue and Johnny are donating £10k and We are donating? Katie, Peter and Peter left at 1.30pm and returned to Ledcameroch at 3 due to an accident on the Loch Lomond road-they left a 4 and travelled via Lake of Menteith and got home by 9pm. The following Saturday, Max and Bec arrive for their last weekend-they are returning to Australia-we were sad that Edinburgh did not work out. Max finished off The Well Being Diary for ImmunoVet. They left their Mazda which Lewis bought. On Tuesday the 31st August they left for Australia via Cuba, Central and South America arriving on the 27/28th November. They Skyped several times-it was a wonderful Safari. Elisabeth, Peter's sister got married to Angus (Angi)Macintosh.

Katie, Peter and Peter, Kirsty, Tom and Mickey came for Christmas and we all had a wonderful Rib of Beef on Boxing Day, and what terrific games-even I played. Kirsty and Tom flew out to Las Vegas on the 30th December.

Christine and I celebrated **New Year 2011 (Picture Story p.519)** on our own with 10oz Ribeyes, Champagne and Japanese Malt Whisky, and Christmas/New Year Whiskeys of 2010/11: Aberlour, Ardbeg (Cadenheads) 15 year old, Macallams, Mortlach, Glenlivet 18 year old, Maxwell Murray Malt, Cuillin Malt, Highland Park: On Friday, January 21st, We and Katie, Peter and Peter, flew BA down to Hampshire to Kirsty and Tom via Heathrow where we hired a large car and Peter drove us to Liss. Next we all visited the South Coast and had a long walk along the Beach. Next day we went to Portsmouth and toured

Nelson's Victory and saw the Aircraft Carrier HMS Ark Royal which was being retired-Christine took a photograph of me on board The Victory with the Ark Royal in the background (p.520)-great stuff!!!. Katie *et al* went to visit Elaine who now stays near Brighton. On Monday we, including Mickey, all went for Lunch at Chris Evans' restaurant The Mullberry-it was Fantastic!!! Mickey was served first. Next day I 'dog sat' Mickey-he was in great form, while the others went to The Goodwood Motor Museum. On Wednesday back to Glasgow via Heathrow. We met with Sue and Johnny, Tom's Mum and Dad, for the first time in February 11 for Dinner at the Ubiquitous Chip in Glasgow with Tom & Kirsty. The UC is an iconic restaurant close to The University. We had a great meal and a great time to the extent that the *Matre 'D* joined us for a final round of Malt Whiskies 'On the House'.

In April 8-12 Katie *et al* and Kirsty *et al* visited. Peter Maxwell is now crawling at speed and can stand-what a wonderful wee boy. We had a 2kg 3 Rib Roast that was finished by Kiwi and Mickey. Off to Skye on 2nd May-Fantastic Weather-stopped at The Memorial to The Marines at Invergarry looking out to Ben Nevis. We spent a wonderful evening at the Cluanie Inn in Lochalsh. Arrived on my birthday and had lunch at The Marmalade with Katie and Peter the Great and had Dinner at Sea Breezes also with Daddy Peter. I had Oysters and an Aberdeen Angus Ribeye with a bottle of Champagne. A Great Birthday! on a beautiful sunny evening. Next day was Peter's first birthday. We had lunch in the garden with the Martins-Margaret and Peter (Senior), Iain and Esthi. Marvellous Sunshine and lots of Presents, especially the Car/Lorry we bought. Lunch was dominated by Christine's Curry Puffs as was Dinner. Next day we baby-sat Peter-what a Star and had lunch at The Cuillins. On Friday the 6th we returned to Glasgow-great Chicken Burgers at MacDonalds at Fort William as usual.

At 3am 2nd June we got a call from Erskine that Grandpa was in a coma-almost certainly terminal. Christine went straight to Erskine where with John she stayed until Monday the 13th June 2.26am when Grandpa passed away. **In between** Max had arrived from Oz on the Thursday 9th, and Katie and the two Peters came from Skye on the Friday as did Kirsty and Tom who had been touring the Western Highlands and Islands in their Camper Van with Mickey. The Murray Clan went into action. It had originally been planned that we would all rendezvous in Skye. Over Saturday and Sunday they all visited Grandpa, including, Peter Maxwell and on Saturday and Sunday (11and 12th) evenings Kirsty and Tom prepared major dinners. It was almost a celebration of Grandpa's Life-a lot of Malt was drunk. On Monday, Tom and Kirsty returned, and Katie *et al* went back to Skye on the Tuesday and Max flew to Belfast for an engagement party of a friend and then all returned on Saturday 18th and Jackie arrived from Philadelphia. The Funeral was set for 3.30pm on Monday the 20th June at Clydebank Crematorium. Early Monday morning, we were all rather

numb. Nevertheless, it was an amazing day-a Celebration! The Ceremony was Splendid and attended by many from Erskine along with John, Mhairi, Lewis and Felicity, Judy, Les and Kerr and Norrie Wright, and Rosemary and David. Young Peter was also there and was so well behaved. My Oration was well received (**XXI:6.3**)-the Minister, John Harris was really good and we finished with 'The Road to Mandalay'-Grandpa was born in Worthing, England when his parents returned on home leave, then returned to Burma. We returned to Ledcameroch where Roe and Pete (they had train problems) had turned up and many from Erskine-Curry Puffs, M&S and lots of Champagne. We played Pool and Tennis Ball tossing from the veranda on to the Bird Bath on the lawn-Katie got a hole-in-one, with Kiwi chasing all the balls (**Video: My Computer Picture File "ME"**). Max was brilliant and looked after everyone as did Katie and Kirsty, and Peter and Tom. Christine was serene and beautiful in her Black and White outfit.

It was a Day to Remember-sad but Wonderful!!!

On Saturday 9th July we went up to Skye. Peter and I had a pint at the Marmalade and then Christine did 10oz Ribeye Steaks from Gillespies. On Sunday we watched the Silverstone Gran Prix and then walked down to and back from the Harbour for an average Dinner at Sea Breezes. Next day was beautiful, and, with Katie and young Peter, we went up to the north of Trotternish to Kilmuir to Flora MacDonald's grave: Alexander MacQueen, the Dress Designer's tombstone was also there. Then to Floddigary Hotel and had a great lunch-Langoustine, Fish and Chips, Chicken and Ham Pie, then over to Uig Pottery, then to Elisabeth and Angie's new house-a bit pokey. On Tuesday we returned to Glasgow with Katie and Peter Maxwell. Katie and Peter junior and I went to the new Riverside Transport Museum on the banks of The Clyde. I was slightly disappointed as everything was mixed up. It need themes, IT, Virtual Reality: Demonstrations on Glasgow and the West of Scotland's contributions to-Shipbuilding, Transport-locomotives, cars, cycling, flying, Dunlop/tyres, Watt/steam engine etc., etc. We toured the Sailing Ship the Glenlee and became members. Throughout our Travels Peter was Fantastic-What a Wonderful Character!-He is so Bright!!!

On the 22nd July, Tom phoned "Do you consider me good enough to ask for Kirsty's hand to marry me". The ring was Diamond and Saphire from Tiffanys-presented by Mickey.

On 24 July Jenny and Dean arrived-they are obviously in love-Dean is a nice guy-huge with an interesting background, adopted from South America.

Maxwell William Murray was Born in Sydney on the 31st August 2011.

On Saturday 3rd September Katie *et al* came down from Skye and we had a wonderful meal of spare ribs. On Sunday, I met with Ruth, Freda and Os Jarrett

and Stuart Reid to discuss Bill Jarrett's Funeral-it was tough. I was honoured to have been asked to do the main Eulogy. Monday the 5th was a beautiful day-The Funeral. My Oration was really well received (**XXI:6.3**)-I think I did Bill justice. A great Eulogy from Os, and Freda and Ruth did a poem, and a lady with a beautiful voice sang 'Aye Fond Kiss'. In all, a Wonderful Farewell. We had a great lunch at the Lake of Menteith with the Martins on their road home to Skye: Peter-what a handsome, brilliant wee boy-what a personality!!! What wonderful interaction between him and Christine!!!

In the middle of September we flew down Fly Be to Hampshire via Southampton to Kirsty and Tom. The Wedding is on September 2012-The Wedding Dress is Beautiful-The Venue The Tith Barn is Magnificent. We went to some great pubs. When we were away Frank Jennings' Funeral took place, then we attended Myrtle Pirie's-there was a Great Farewell-she was a great person and a great lady-we were life long friends. Les drove me down to our Cousin Duncan Murray's Funeral in Dumfries-he was a great Rugby Man and there was a Fantastic Rendition of Flower of Scotland. In November I booked our trip to Oz-Emirates Business Class 13 March to 10 April. We had repeated Skypes to Sydney and Skye throughout December. We spent Christmas on our own-a Fantastic Raclette and Veuve Clicquot. Then, Katie *et al* arrived on 28th and Tom and Kirsty on the 31st.

2012 (Picture Story p.521) with Katie, Peter and Peter, and Kirsty and Tom, we celebrated The New Year. Disasterously, Christine slipped on an icy pavement while walking Kiwi and badly damaged her shoulder. We had to cancel our Australian Trip-Trailfinders were fantastic in helping us to recoup most of the cost. Umberto Fazzi was Christine's Shoulder Surgeon at The Western and did a good job, we hope. In early May we went up to Skye to celebrate Peter Maxwell's 2nd birthday on the 4th and my 73rd on the 3rd. On the 24th we travelled up to Raigmore Hospital, Inverness for the birth of our 3rd Grandchild George Allen Lamont Martin. Katie was released on the same day so we all travelled down Loch Ness to Skye where Christine and I booked into the Royal Hotel-it was a tough drive down. My left leg became increasingly painful and back in Bearsden Dr Walker sent me to A&E at The Western with suspected Deep Vein Thrombosis-very distressing-but this was eventually eliminated and in a subsequent scan at the Southern General. I was found to have an L4/5 disc problem. Peter Kennedy was incredibly helpful and I was quickly referred to a Consultant at The Southern. He advised a conservative approach of Physiotherapy. I used my contacts at The Sports Medicine Centre at Hampden and started regular visits to Jim Fallon first at Garscube and later at Hampden. He is a great Guy. The overall experience was very depressing.

On Monday the 22th of September, Christine and I, and Katie, Peter, Peter William and George set off by road in 2 cars (BMW's) on our safari to

Hampshire to Kirsty and Tom's Wedding. We stopped halfway down at Barton Grange Hotel, recommended by Lewis, having been totally misled by our Sat Nav. The Hotel was fantastic. Next day the Sat Nav took us straight to the Old Dairy, an upmarket Farm House we had rented for the whole Family for 2 weeks, near Selborne in Hampshire. Max and Bec and Maxwell William from Sydney were already there. Wednesday we spent at Kirsty's and Tom's House at Liss. Sue and Johnny arrived and we all dined in together. Next day we all had lunch at "The PUB with NO NAME" Fantastic!!! Johnny and I shared the bill. In the afternoon we checked out the venue-The Tithe Barn near Petersfield-Magnificent!!! Max checked the acoustic equipment for my Speech. **On Friday 21st THE WEDDING** Lovely Weather-The OLD DAIRY was hectic with Hairdressers, Photographers, Bridesmaids, Children etc.,etc. I stayed in our bedroom for as long as possible. Then I escorted Kirsty to her Wedding-She looked absolutely **Radiant** and **Beautiful**-We danced up the Aisle. The Ceremony was Moving and Triumphant, then was orchestrated by a Masterful Master of Ceremonies. Norrie and Irene Wright, Christine and John Preston, Ruth and George Gettinby and Sandy Love, and Lesley and Kerr with Murray and Marie, Fraser and Luke, his partner, were present. I think my Father of The Brides Speech went really well. As Kirsty and Tom both have an eclectic taste in Music, I made a **Musical of Their Relationship "Simply The Best"**- Lewis Allen and Mike Heneghan helped with the technology and I collected the music on my iPod (**XIX:7.3, XXI:7.2.2**). I had many Compliments. There was wild Dancing and numerous Havana Cigars. Next day was again beautiful and there was a huge Barbeque at Kirsty and Tom's at Liss-Johnny and his Brothers did the cooking. Sunday was a day of rest and on Monday Christine drove us, including Max, Bec and Max William back to Glasgow in appalling **rainy** conditions- she was brilliant!!! Max *et al* returned to Australia. We had a great Christmas with Katie *et al* and Kirsty and Tom.

2013 (Picture Story p.524) was another big year. Christine did a lot of travelling leaving John and Katie to look after me and Kiwi. In January, she flew Fly Be down to Hampshire to Kirsty with Katie, Peter, Peter and George, then again in July without Peter Senior. In March, my computer started to go wonky and on Drew McConnell's advice I bought a new Dell-unfortunately it came with a corrupted hard disc-this was replaced: Zach, Drew's son, and Drew set it up-it was 3-4 weeks of hell!!!-the eventual outcome was fantastic

We attended our nephew Murray and Marie's Wedding at Dunglass, Dunbar in May. Murray is an Actuary and Marie is a Doctor. Christine drove (brilliantly) us through to the Royal MacIntosh Hotel in Dunbar. Peter and Katie *et al* followed us in their own BMW. It was a Scottish Faulty Towers. The staff were very friendly, the bedrooms very spacious but the locks, doors, windows and bathrooms?-Heath Robinson. Dinner and Breakfast were massive but of questionable quality. Peter paid for Dinner on Friday evening. Kirsty and Tom

flew in on Friday night, stayed at Edinburgh Airport and Christine and Katie picked them up on Saturday morning. After lunch, we all drove to Dunglass Estate, a beautiful estate 15 min from Dunbar. There was an ancient roofless, windowless Church (it was rather windy and overcast) and a huge Marquee. A Civil Ceremony was held in the Church as the wind howled through. It was very moving. Marie looked stunning and it was clear that they were in love. Then to the Marquee where we had a Family Table next to the Top Table. We had an outstanding meal-I even tried the fantastic ice cream, with excellent wine and Champagne flowing. The Speeches were great, particularly Fraser's, who in his closing remarks quoted his Uncle Max's speech at his Mother's (Lesley and Kerr) wedding in 1981(which we paid for), when my closing remarks were "Let the Party Begin-Tear the Place Apart" and the Party Began. I had my First Dance with Katie. Christine said she was quite moved as I had not given her the first dance at her Wedding in 2009, as I was unwell in my bed upstairs-I had fulfilled her wishes at last. Everyone was buying me drinks, particularly Kerr-quadruple Malts. I had a long chat with Fraser and Luke, his partner who is a Post Doc Neuroscientist at Edinburgh University, about ImmunoVet and opening a Restaurant. I had several conversations with Jim Wright, Kerr's brother, who kept telling me how wonderful I was-he is a Rangers Fanatic. Then a really nice chat with Niall and Kirk and Noel, Niall's son who is a lovely guy and subsequently, we have been in contact-Noel sent me a biography of Scott Symon, the Famous Ranger's Manager of the 50s and 60s and I have been sending him and the others digitised family photographs. Sophia, Niall's daughter was special and looked after all the children, especially Peter Maxwell who had a wonderful time. We left about 9 and I left the Whiskies Kerr had bought me all over the place. We returned to our hotel where we-Katie and Kirsty *et al* had a Bunnahabhain session x5 till 1am. Sunday morning?????? Very Slow-Kirsty and Tom missed breakfast, and then we all went to The Wrights at Dunglass where Fraser and Luke had prepared a wonderful lunch. We then dropped Kirsty and Tom off at Edinburgh Airport and returned to Ledcameroch. Murray and Marie's Wedding had been a Memorable Event.

Molly Murray arrived on the 31st May in Sydney, our Fourth grandchild. In mid-July John helped me to sell the Alfa for £7500 via The Herald. In October, Christine, on her own, flew Emirates Business Class to Sydney via Dubai to visit Max and Bec and Maxwell William and Molly Anne Christine Murray. We agreed that I would not go as it might be a bit stressful and Christine could devote all of her attention on Molly and Max. John looked after me and Katie came down with the boys-she made some fantastic meals-in Christine's class. We Skyped almost every day-Max Jr and Molly are fantastic. Christine looks so Happy and Relaxed and Beautiful. Max Sr took time off and it was a wonderful three weeks. Bec is fantastic and she has sent almost daily pictures of Max since he was born and the same for Molly. They are very happy in Australia and have

bought a great flat with a Fantastic view of Sydney Harbour. Christine and I agreed that it had been the right decision for me not to go but I still **Felt Very Guilty**. Christine had her right knee replacement carried out by Mr Hullins at The Southern General Hospital on the 21st November, was released on the 24th, very painful.

Christmas arrived back with the storms. Christine is making a remarkable recovery with her knee. John has been a huge help. There was a mammoth effort made for the anticipated arrival of The Martins and The McGinleys, who are not coming until the New Year. A beautiful Christmas Tree and illuminated Reindeer on the Veranda and at the front door, including the Magnificent Robin. I stuck up our Christmas Cards and managed to set up 16 hrs of Christmas iTunes. On Christmas Day, Christine and I shared a Wonderful Raclette. On the 27nd December, Stuart Carmichael invited me out for lunch at Andiamos in Milngavie where we met Douglas Hutchison. We were taken to a table for 8 in a nearly empty restaurant-seemed strange? Then Sandy Love, Stuart Reid and Dom Mellor and then Richard Dixon arrived-My Boys-Stuart Carmichael had organised a Reunion-the Max Murray Lunch, with some of my Stars: Stuart Reid, now Head of The Royal Veterinary College, London, Sandy Love and Dom Mellor, both Professors at Glasgow, Stuart Carmichael whom I had brought in to Head The Small Animal Clinic and who had designed The New Small Animal Hospital and now a Director at Fitzpatricks, the cutting edge Small Animal Hospital in Hampshire, Douglas Hutchison (Entrepreneur) and Richard Dixon, founder of Vets Now, both Millionaires. I had successfully nominated Stuart Reid, Richard Dixon and Douglas Hutchinson for Fellowships of The Royal Society of Edinburgh, Douglas getting his in 2013. I believe I can say that I played a significant role in all of their remarkably successful careers. It was a very moving and enjoyable occasion-Group Photographs were taken and it was agreed to make it an annual event. In the evening, we (Christine, Katie, Peter Maxwell and George all squeezed into Katie's BMW, at least Christine did), and went to a Family Reunion at Lesley and Kerrs. I was dreading it but it turned out great. Everyone was there-Murray and Marie, Lindsay and her boyfriend Ian, Fraser and Luke, all the Mays and Thomsons, Sophia and Noel with whom I had a great chat and I told him about our distant relation Bill Murray who had played for and managed Sunderland from the 1930s to the 1950s (later Noel looked him up on the Web and sent me his photograph). I had a good chat to Ian, Lindsay's boyfriend, and then a great conversation with Ian Thomson and his 'love affair', writing letters almost every day to The Herald on a wide range of subjects, including Independence-very learned. As always the Food and Drink were great.

New Year 2014 (Picture Story p.526). Katie and Peter and Peter Maxwell and George, came down on Saturday the 27th December, Iain and Esthi passed through on the Monday on their road back to Skye from South Africa, picking up

the BMW that Peter had driven down (Peter and Iain had bought a second BMW). Kirsty and Tom, and Mickey and Sprout came on Tuesday, Ne'erday. Max Skyped from Oz with the Fabulous Sydney Harbour New Year Fireworks Display. We had a Wild New Year to 6am in the Morning-Pizzas, Beer (Peroni/Corona), Champagne, Dry Martinis (Gin), Double Black Label Whiskies, Remy Martin Brandy and Havana Cigars (from Kirsty and Tom's Wedding). I played Sydney Devine-Scotland Forever and we all played Tumble Down with our real Kenyan Jenga-different types of wood, different weights with slightly different shapes-Christine is a Master!!! I am the Cheating Referee!!! On New Years Day, Christine cooked a Marvellous 5 Rib-Roast-devoured by a hung over family! On Friday the 3rd of January 2014 she was given the all clear, and can walk without a crutch and can drive.

On Saturday 15th February we drove up to Carrbridge by Aviemore to meet Katie, Peter, Peter and George at MacDonalDs Estate at Lochanally where we had rented a cottage. It was an idyllic location with lot of ducks and pheasants. I drove part of the way. Sunday was a lovely cold day wth blue skies-we went to Loch Morlich and then to Paddy's field where there was plenty of snow and Peter and George were able to sledge, as Katie, Max and Kirsty had done nearly 30 years previously. Peter and George were fearless. We then had an excellent lunch at the Old Bridge near Coylumbridge. On Monday, the Martins went swimming at MacDonalDs Leasure Centre in Aviemore. We went shopping at the Centre and bought a wonderful purple bunny for the expected Baby McGinley and a great pink suit. Then as usual over the last 30 years we had lunch at the Ski-ing Doo-great memories. Then to Rothiemurchus and more shopping. Had a pint at Lochanally. On Tuesday we safaried to Kingussie Wild Life Park, quite an array of animals, including Polar Bears, had lunch and then up to the Cairngorms. The snow beside the road was 10 to 20 feet in height-both frightening and awesome. The Centre was packed with skiers. In the evening we had dinner at Carrbridge Hotel-OK. We returned to Glasgow on Wednesday, leaving at 10.30 and arriving at 1.30, picking up a MacDonalDs Chicken for lunch. Katie was not in best form at Carrbridge and is under a lot of stress at School. I Amazoned her a book by John Muir about California's Sierras and Yosemite where she and Peter had Honeymooned.

On 10th March, Christine and Katie flew Fly Be down to Hampshire to Kirsty and Tom until 14th-I picked them up at Glasgow Airport on their return. Peter came down from Skye with the two boys. Everyone was in super form, especially Katie who was back to her old self, while the boys had great time drawing on the paving stones and hunting for Easter Eggs in 'The Jungle'. Peter Senior is a very good artist and a really good footballer-tremendous ball control. On the 26th March, Martha (after my Mum), Susan, Christine McGinley was born 7lb 9oz-everyone is well!!! She is beautiful!!!

I had lunch with the GOM, Norrie, Oz, Jack and Hugh at Buchanan Castle on Wednesday 16 April. The taxi lost its way getting there under the direction of Os. I had an excellent lunch of Scampi and Chips with excellent red wine. Everyone was in great form!!! A Disaster in May!!! I drove up to Skye with Christine on Friday the 16th. Katie had arranged for us to stay at a friends who were on holiday. Early Saturday morning I fainted in the bathroom and broke my left humerus. I was taken to A&E at Broadford by Ambulance and my arm was put in a sling. As nothing else could be done, we stayed until Tuesday as per our original plan and I went to A&E at The Western on Wednesday morning to start my long recovery-I am typing this on Monday morning 4th August, still with limited use of my left arm.

Another Disaster, but even greater, I answered the phone on Tuesday morning 10th June-it was Michael John Gettinby calling from Dublin Airport-his Dad had just died suddenly of a massive heart attack. He was absolutely shattered and asked me what should he do? In the end there was a massive Funeral at New Kilpatrick Church on Wednesday 18th June. It was very moving with wonderful orations, including by Michael John and Peter Gettinby. Christine, as usual was a rock, looking after Ruth Gettinby and giving her strength to carry on. George Gettinby was a great Scientist who with Lord Kelvin and Bill Jarrett taught me “Mathematical Medicine”, a Great Fellow Being, a Great Man, a Great Husband and Fathert, and a Great Friend (XI:5,6,7,8; XII:4 etc.).

On the 11th July, in London Stuart Reid was sworn in as President of The Royal College of Veterinary Surgeons, and I became an Honorary Fellow of The Royal College of Veterinary Surgeons (FRCVS), *in absentia*, 20 years too late. The Glasgow Commonwealth Games started on Wednesday the 23rd of July in beautiful Sunny Weather which was replaced by torrential rain on Saturday/Sunday 3rd August when they finished. The next Games are going off to the Gold Coast in Australia. Our Games were “PURE DEAD BRILLIANT”!!! with lots of Medals for Scotland, England, Wales and Northern Ireland. On 30 July, Katie and the two Boys and Christine went down to Hampshire to see beautiful Martha for the first time and returned on 5th August. As usual, John came over to look after me. On 11th of August, Christine had an operation on her right hand at Gartnavel. It was a day surgery but her arm was in a sling as her hand was in plaster. Mhairi and John came over to pick her up from the hospital, as I was still unable to drive.

Martha, Kirsty and Tom arrived from Southampton on Fly Be on Thursday 21st August. Martha is just wonderful and full of smiles for her Papa. As we cannot drive, the McGinleys drove up to Skye the next day in the BMW with Tom’s bicycle in the boot. There was a big cycling event on the Sunday (Tom thought it was the Saturday), a 90 mile circuit round The Island, which he completed successfully. I continued to work on this *Magnum Opus*. I have nearly finished

Vol 1, and started Vol 2, the Picture Story, which later I decided to insert into Vol 1. Jackie landed on 10th September. I think Christine really enjoyed her company-it must be tough living with me. Katie, Peter, Peter and George came down from Skye on the Friday-**All Hell Broke Loose!** We had a wonderful Saturday night with a great meal, wine and malts, then on Sunday a curry and a visit to the Gruffalo at Kilmardinny Loch, Norrie Wright lives nearby. Next day, the Martins returned to Skye.

Michael James Murray was born in Sydney on the 8th November 8lb 8oz-what a mighty boy!!!, arriving unusually in an intact amniotic sac, with Molly and Max, Peter and George Martin and Martha McGinley, now a total of 6 grandchildren, 4 boys and 2 girls. The Martins came down again on the 22nd of November and took the place by storm. Both Peter and George are highly intelligent and articulate. Peter is already bilingual in Gaelic and English. Katie goes to weekly Gaelic Classes.

In December, the Martins arrived on Monday 22nd, while the McGinleys with Mickey and Sprout came on the morning of the 24th, having stopped overnight half way up. Everyone had a great Christmas with a fantastic array of presents for Martha, Peter and George, and Katie got an iPad etc.,etc. We had a 4/5 Rib Roast, lots of Champagne and the best red I have ever tasted (Californian Fetzer Crimson). On Saturday the 27th I attended the Max Murray Lunch, held at Andiamos in Milngavie, organised by Stuart Carmichael with Stuart Reid, Sandy Love, Dom Mellor and Richard Dixon, with apologies from Douglas Hutchison who was on holiday. Next day, Christine and I and Katie *et al* went to a Family Party at Evelyn and Ians. Les *et al* was ill and could not make it. We had a great time!!!-I had an excellent chat with Ian, and then with Alan and Sandra. Alan told me about his great Uncle who was the first Scottish VC in 1914 in the First World War-he was in the Cameronians, the same regiment as my Great Uncle Bruce Davidson, Granny Davidson's brother who was killed in 1915 in the Somme the day after he arrived at the Front in France. We also chatted about books and the Kindle. We are all going to get together on Xmas 2015. Katie left on the 29th and Kirsty *et al* on the 30th. **Katie is pregnant!!!**

2015 (Picture Story p.528) was eventful. Kiwi on 8/9th January became seriously ill. We thought we were going to lose her. She suddenly became anorexic, developed severe lassitude and rapidly lost weight. She could hardly walk and could not jump up on to the settee. She went to First Vets (Richard Dixon) and then to the The Vet School where she was scanned revealing an enlarged liver, and bloods showed a haemolytic anaemia and markedly raised liver enzymes. Diagnosis was not known but we believed she may have been poisoned, as had happened to two of her friends. The prognosis was poor. She was treated with an array of drugs, including steroids over a period of 4 weeks during which she slept most of the time, was incontinent, and became severely

emaciated. Christine thought that she was being overdosed with steroids and dosaged was reduced. At this time, Kiwi slowly started to get better and by mid March was back to her old self although her liver enzymes are still slightly raised. The Vets think it was a miracle but we believe it was almost certainly her daily dose of ImmunoVet, which she has now been taking for 5 years, that helped to save her. The Martins came down from Skye in February and were all in great form.

In March, Christine damaged her cruciate ligament in her good left knee and was on crutches but she still flew down to Hampshire on 25th for Martha's 1st Birthday on the 26th and returned to Glasgow on the 30th of March-what a brave and tough Lady!!! John looked after me as usual. Christine has now formed an even greater relationship with Ruth Gettinby. They visit Costco (a VAT Free Mega Store) regularly and in April bought an amazing Aeroplane SeeSaw-7 seater for Our Family Reunion at the end of April.

THE FAMILY REUNION-THE GRANDCHILDREN (Picture Stories p.529--, p.534--).

Max and Bec with Max, Molly and Michael arrived at Heathrow on Friday 18 April. They hired a large White Mitsubishi Outlander and drove to Kirsty, Tom and Martha's in Liss, Hampshire. On Wednesday 22nd they travelled to Dumfries and then the next day to Ledcameroch. What Excitement and what a Great Family!!! We quickly became friends with Max Junior, Molly is just Beautiful while Michael gave us a lot of smiles. We had a Mass of Presents ready!!! Max was Agog with his Bosch Work Shop Bench and Bosch Belt full of tools (and next day with his Bosch Safety Helmet), while Molly loved her Molly Dolly Doll plus Molly Dolly Pram, Chair and Bed, and then Katie arrived with Peter Junior and the mighty George. They were in Great Form and all went wild on the Aeroplane Seesaw. Then Max Ronald Allen led a Dinasauro Safari down through The Garden which overall is looking good. In the evening we had a Great Lasagne and Champagne. Next they all visited the Dinasauro Exhibition at Kelvingrove Museum. Katie and Family returned to Skye on Tuesday 28th. On Thursday, Max *et al* and Christine and I all went to Alloway and had a great lunch at The Brig o' Doon where they were married in 2010-it was a beautiful sunny day on both occasions.

On Friday, Kirsty, Tom and Martha arrived-Christine picked them up at the Airport, then in the evening Katie, Peter (Senior), Peter and George appeared again. Our Family is reunited, 14 in all, 8 adults and 6 children with another expected in August (Katie). On Saturday 1st May, we had a Greater Family Reunion, Bec's Aunt Joan (her Mum's sister) and son Kyle-really nice people, John and Mhairi, Lewis and Felicity, then my three Sisters, Lesley, Sandra with Jennifer, Evelyn with Niall and Noel and Sophia-they came in relays during the day and feasted on 'Delights' collected at M&S by Katie and Max. It was a great

day and everyone was in Great Form. On Saturday I had a long chat with Max about the future, very philosophical and helpful.

May 3rd my 76th Birthday. We celebrated with a magnificent Raclette, Champagne, Fetzer Crimson Red Wine, and a bottle of 16 year old Scapa Malt Whisky. May 4th was Peter Martin Junior's 5th Birthday. We had a Wild Party in the house and in the garden with the Aeroplane SeeSaw and the Football Flick (urban) etc-it was a beautiful day. Lots of Photos on the Lawn.

Sadly on the 5th, it was farewell to The McGinleys-Christine took them to the Airport, then to the Martins to Skye and, in the early evening, to the Murrays to Australia via Dubai for a few days arriving safely home in Oz on Sunday 10th May. Once again Christine went with them to Glasgow Airport. It was a wonderful reunion of a Family, full of love and respect-Christine's Efforts were totally Amazing!!! What a Great Lady!!! Homeward Bound.

2015 Continued from p.339: At the end of June we bought a New Car (**p.556**) at Arnold Clarks, a low mileage (14,500 miles), bright Red Audi Estate, an A4 Advant 2 litre Diesel Automatic, replacing our beloved 320d BMW manual diesel. It is fantastic and relieves the problems we have with our joints,

Max who is now the Director of Financial Services for Deloitte's Australia has been made a Partner in the Company

Elsa MacKenzie Davidson Martin was born on Wednesday 26th August 2015, 9lb 9 oz. What a mighty beautiful baby!!! We now have 7 Grandchildren-Peter, Max, George, Molly, Martha (after my Mum), Michael and now Elsa (after Christine's Mum).

Kirsty is pregnant, a boy due on March 2016

Max visited in October. Firstly, on Sunday 11th October Katie *et al* came down, then Max arrived on Tuesday via New York, had a family visit to the the Kelpies (**p.533**), then on Thursday Max flew to London then on to Kirsty in Hampshire. On Saturday he flew to a Major Conference in Prague, then home to Oz on Wednesday-sounds like a trip I used to do.

At the beginning of December, Katie and Peter and all the Family drove down-Elsa has Great Smiles, and Kirsty and Martha flew up. Martha, always Smiling, spent all the few days they were here with the doll (on her hip) pushing the push chair both of which Grannie Murray had bought for her.

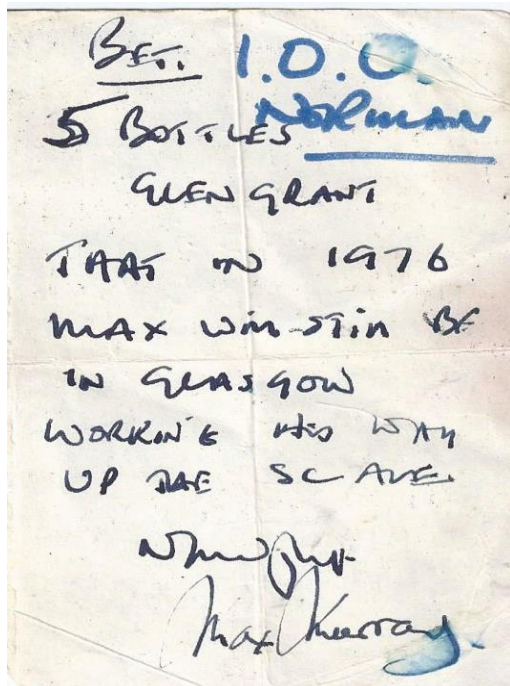
2016 (Picture Story p.544) Christine and I spent Christmas and New Year 2016 on our own, as for various reasons Katie *et al* could not make it and Kirsty and Tom *et al* were working. There were lots of presents-I got 6 for Christine's Birthday and 5 for her Christmas: I got books and an outstanding MacCallams Malt Whisky. There was lots of Skyping.

The Martins and McGinleys arrived on Wednesday the 6th January 2016, Katie, Peter, Peter, George and Elsa Martin, then Kirsty, Tom, Martha, Mickey and Sprout McGinley, then Santa Claus with masses of presents. I got an 'Amazon fire TV stick' from the Martins and a Malt Whisky Tasting Array from the McGinleys, which we all sampled-it was fantastic and was finished in one session. We had our Christmas Dinner on Friday Evening-Roast Rib of Beef, Champagne and a Californian Fetzer Crimson Red-Fantastic!!! Everyone left on Saturday to avoid the Terrible Storms forecast throughout the UK-they all got back on time and safely.

January to March was excessively wet with severe flooding in the Highlands, in the Borders and in the Lake District. Fortunately, there were no problems in Skye or in Bearsden or Hampshire.

Edward (Eddie), John, Maxwell McGinley was born on the 22nd of March 2016 in The Queen Alexandra Hospital Maternity Unit in Portsmouth. He weighed 8lb 12oz. Kirsty looked terrific. Christine cannot wait to get on a plane to Southampton.

However, The Martins arrived on the 31st of March, Katie, Elsa, Peter and George. Christine drove up and down to Skye to collect them. It was a beautiful sunny day-Loch Lomond and Glencoe were awesome. The whole family were in terrific form. Peter and George are mad keen on football and Christine bought them new strips and football boots. I gave Peter Jr. my 1951 Old Govan Fair Cup Winners Meda



On Monday morning 11th April, Christine flew down to Hampshire to welcome Edward into The Family. John had arrived to do the cooking/carry outs. The previous week, I had



been working on my Magnum Opus Our Story. I was examining a file of ancient papers/letters when the torn page of an old Glasgow University Diary fell out. On it I recorded a hand written bet that Norrie and I had made sometime in 1974,

“5 bottles of Glen Grant Malt Whisky that I would still be working up the scale at Glasgow in 1976”. It brought back great memories of yester-year. I scanned it and sent it to Norrie. After lunch, the door bell rang. Norrie had come to honour the bet-the 5 bottles of Glen Grant Malt-40 years later. What a bet!!! I gave John a bottle. I sent Norrie a range of books that he was planning to read (Mary Beard, Simon Sebag Montifiore)-Amazon Prime, next day delivery.

Since late March, I have had a rough time with Sciatica with relapsing pain in my right knee and the outside of my right calf and thigh. Unfortunately, it has restricted me walking Kiwi who is in fantastic form for a 16 year old often behaving like a puppy. Peter Kennedy arranged for me to see a consultant neurologist Dr Graham MacKay-an X ray confirmed that it was not arthritis. I was put on a diet of Paracetamol and Codeine Phosphate. I now have a series of rigorous physiology exercises. Progress is slow but progressive and by mid August I have been able to stop the pain killers, and by October/November I was much better and mobile. As usual, Christine is fantastic and bares the burden.

Our family continues to flourish and our latest in March is Eddie, a Celtic Supporter in Hampshire, a happy, handsome, smiling wee boy. Peter and George in Skye are talented footballers (Rangers supporters). George is a Goalkeeper. In Sydney, Max is a”Bob the Builder” and Michael is a mighty Man-he looks twice his age. The girls are all beautiful: Molly with her Smiles, Martha with her dogs, Mickey and Sprout, and her Horse Shuni, Elsa with eyes that speak and loves her brothers.

What a Wonderful Ruby Anniversary!!! I am ashamed and upset to say that I forgot so we started on the 9th September rather than on the 8th. However, Mummy and Katie, Max and Kirsty transformed the whole situation with Beautiful Engraved Crystal Whisky Glasses, Champagne and Raclette on the 9th followed by a “Banquet in the Box” on the 10th. I have inserted The Ruby Anniversary Cards sent by KMK and Mummy into Our Book—Our Story (p.621); they are fantastic and say it all.

Onwards and Upwards-The Martins and McGinleys will arrive on 28th December and leave early January 2017, to celebrate Christmas and New Year with lots of presents, Rib of Beef, a range of wines, including Ravenswood Lodi Zinfandel, Magnums of Champagne and Whisky, including Chivas 21 Year Old Royal Salute. The MACALLAN GOLD, Glen Grant Malt (from Norrie) etc.

Max *et al* are coming for 4 weeks in June/July and the whole Family are spending one of these weeks in a Luxury Villa in the Algarve, Portugal.

As we have said before, Christine and I are so overjoyed that we have a **Magnificent Family with Spouses Peter, Bec and Tom whom they love, as we do, and they all get on so well together.**

PICTURE STORY Me and My Family July 1985 and Onwards



1985 2nd July KMK Titwood Road



1985 Us Titwood Road



1985 21 Ledcameroch Road Bearsden



1985 Aerial View



1985 Queens View to Loch Lomond



1985 Mum *et al*, Buchanan Street, Xmas



1986 Christine Ledcameroch Road



1986 Greenhouse Ledcameroch



1986 Glasgow High School KMK Ledcameroch



1986 KMK, Christine, Aviemore



1986 KMK, Gardening



1986 KMK, Tigger, Ledcameroch



1986 Mum, KMK, Ledcameroch



1986 Murrays, Morrisons, Chambers, Ron Wood, Ledcameroch



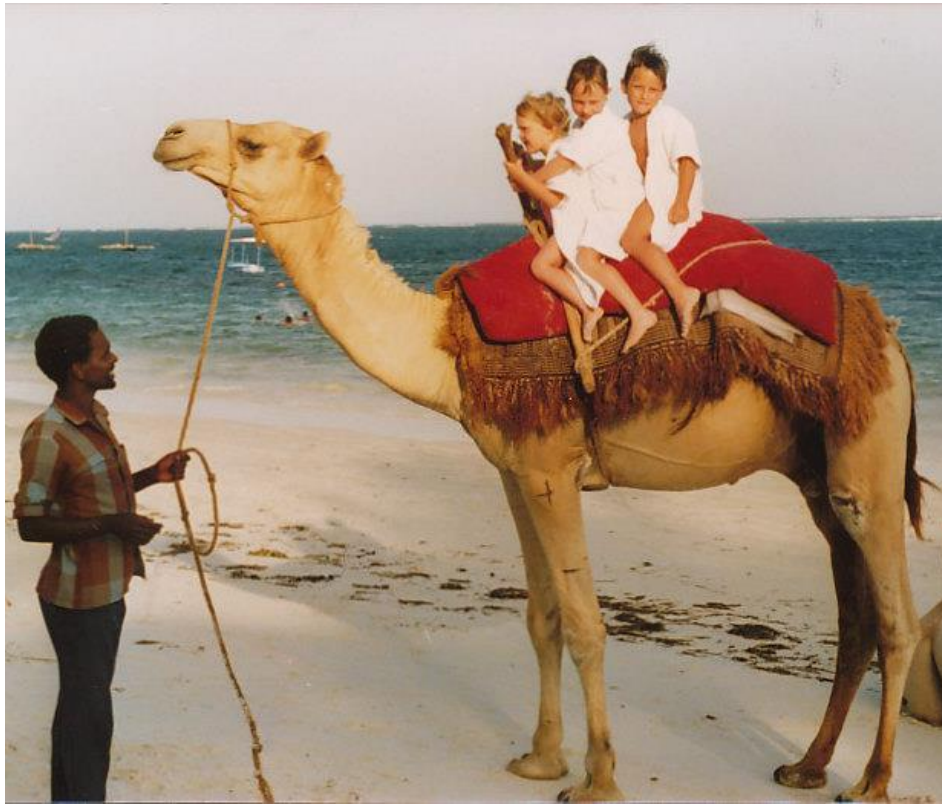
1986 Murrays, Gills, Ledcameroch



1986 The Carnivore Nairobi Us, Morrisons, Woods *et al*, December



1986 The Tamarind Nyali Mombasa, Us, Ron and Ailsa Wood



1986 December Nyali Beach Mombasa



1986 Msambweni, Mombasa, December



1986 Christine, Msambweni, Christmas



1986 Msambweni Mombasa, Us, The Woods, Christmas.



1987 Tivoli Gardens Copenhagen



1987 KMK, Christine, Stirling Castle



1987 Off to Aviemore October



1987 Coylumbridge Chalet, Aviemore



1987 The Cairngorms



Kirsty, The River Spey



1987 Kingussie Wild Life Park



1987 The Woods, Tudor House, The Cotswolds



1987 KMK, Tigger, Maxwell Park



1988 Glasgow Garden Festival July





1988 Kirsty, Max, Katie, Glasgow Garden Festival



1988 Christine, Glasgow Garden Festival



1988 KMK, Coylumbridge



1988 KMK, Coylumbridge



1988 Cairngorms



1988 Culloden Battle Field, The Murray Clan



1988 Castle Urquhart Loch Ness



1988 Loch Ness Monster



1988 Ledcameroch



1988 Kirsty, Max, The High School of Glasgow



1988 Weipers Lecture; Us, Sir William Weipers



1988 December, Me *et al*, Carnivore Nairobi



1989 Easter, London Greenwich Maritime Museum, KMK



1989 My 50th Birthday (note Grif Dalglish). Just in from The Gambia



1989 Pops, Max



1989 KMK, Ledcameroch



1989 Us on Safari, Ledcameroch



1989 July, KMK, The Woods, Kabete, Nairobi



1989 KMK, The Tamarind, Nyali, Mombasa



1989 KMK, Likoni Ferry, Kilindini, Mombasa



1989 KMK, Diani Beach, Mombasa



1989 Max, Diani Beach Hotel



1989 Katie, Diani Beach Hotel, July



1989 Aberdare Country Club, Our Bungalow, July



1989 Aberdare Country Club



1989 Karen Blixen's House, Karen, "Out of Africa"



1989 Carnivore with Ian MacMillan (Technician from Vet School)



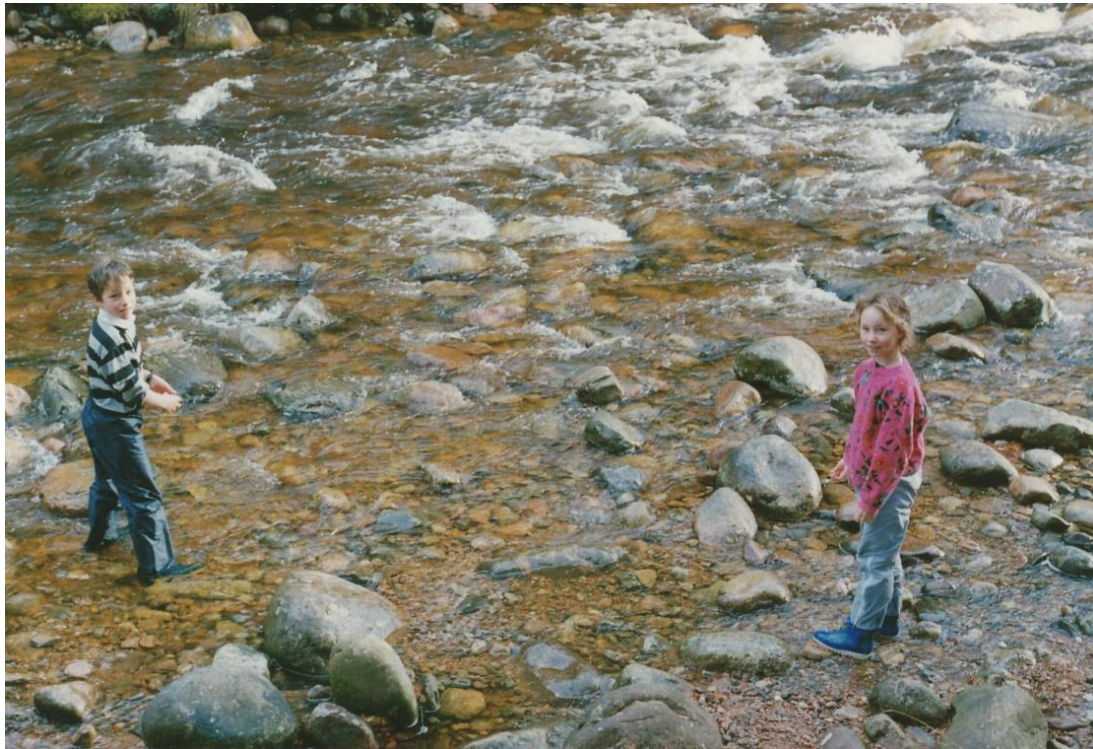
1989 October, Us off to Aviemore



1989 Us, Coylumbridge Our, Chalet



1989 The Spey at our Door Step



1989 Max, Katie, The Spey



1989 Loch Morlich, Christine, KMK



1989 Us, Xmas, Buchanan Street



1990 Us, Ledcameroch



1990 Us, Granny, Grandpa, Titwood Road



1990 The High School of Glasgow



1990 KMK, Ledcameroch



1990 Villa Cati, Porto Pollenca, Majorca



1990 Porto Pollenca, Majorca, Mum and Dad



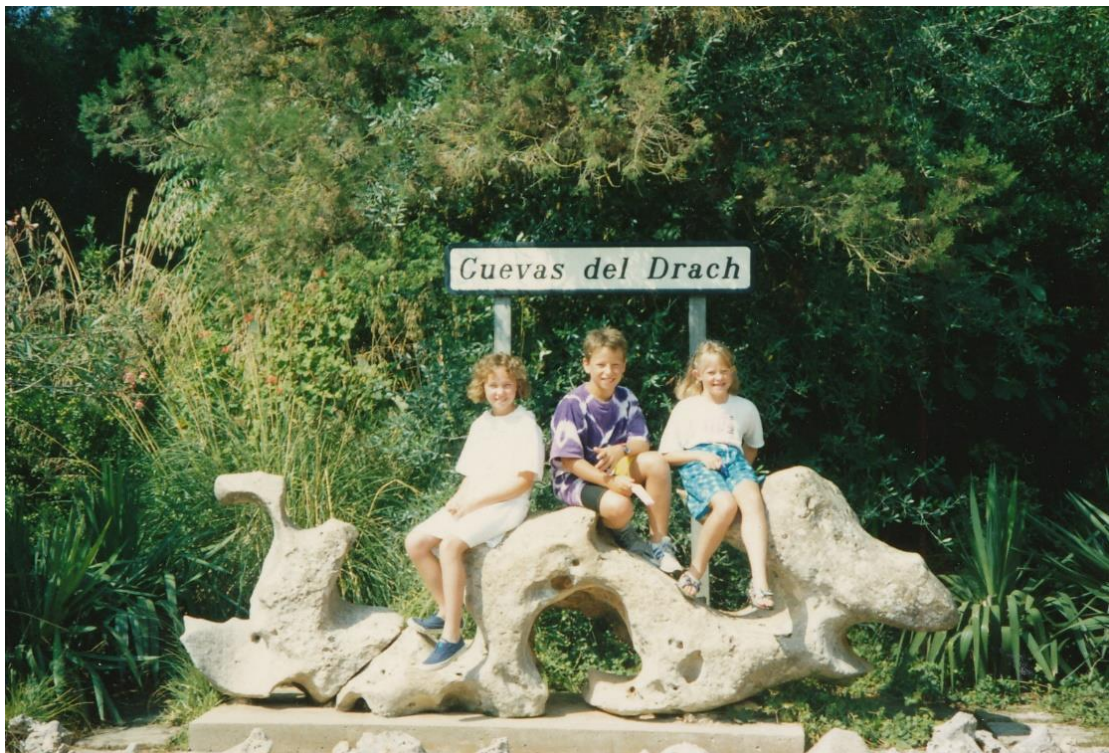
1990 Villa Cati



1990 Porta Pollenca Sunset



1990 Us, Porta Pollenca



1990 KMK, Caves at Manacor



1990 Porto Pollenca



1990 Us, Johnstones, Cochranes, Ledcameroch



1990 Granny's Birthday, 30th August, Ledcameroch



1990 KMK, Xmas



1991 Us, Ledcameroch



1991 Us, Ledcameroch



1991 Kirsty, Villa Cati, Porto Pollenca, Majorca



1991 Us, Porto Pollenca



1991 KMK, Porto Pollenca



Pops, Villa Cati



1991 October, Off to Aviemore with the Bicycles



1991 Us, Coylumbridge



1991 KMK, Christine, Coylumbridge



1991 Coylumbridge



1991 Loch Morlich



1991 Culloden Battle Field, The Murray Memorial



1991 Culloden Battle Field Pops-Murray Memorial



1991 Us, Xmas, Buchanan Street



1991 Us, Xmas, Titwood Road



1992 Us to Centre Parcs, Sherwood Forest



1992 Us, Roe and Pete, The Heneghans, Mick, Ledcameroch



1992 Granny, Grandpa, Judy, Heneghans, Us, Ledcameroch



1992 Ledcameroch, Us, Roe and Pete, John and Mhairi *et al*, Mick



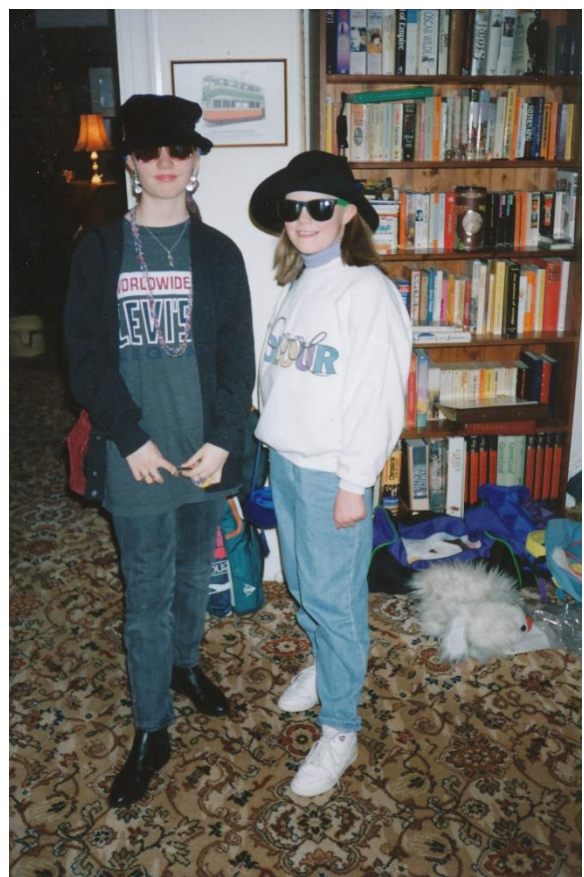
1992 Us, Xmas, Ledcameroch



1993 February, Vet Ball



1993 Us, Ledcameroch



1993 Katie, Kirsty, Latest Fashion at Ledcameroch



1993 Dupont Brandywine Pennsylvania, Christine, KMK



1993 Us, Benjamin Franklin Philadelphia



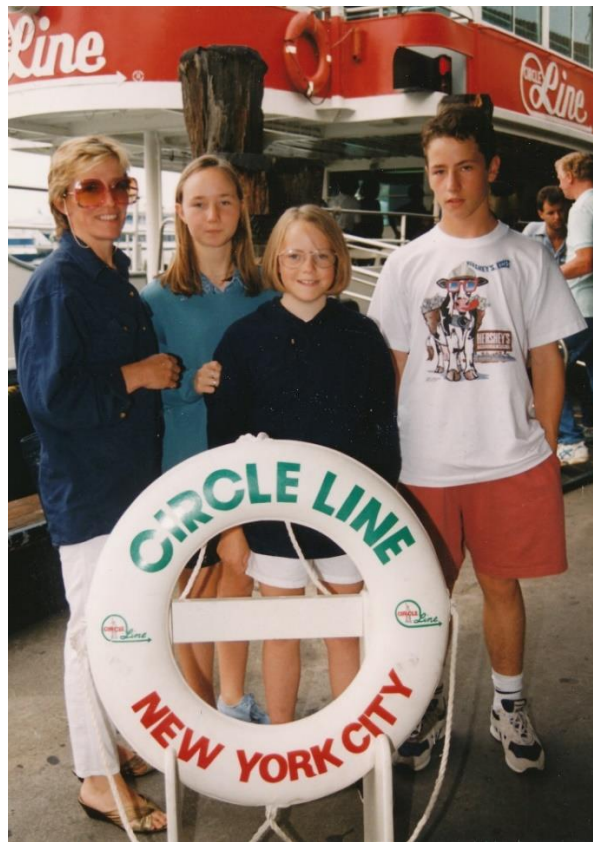
1993 Us, Heneghans, Philadelphia



1993 Extended Limo, Philadelphia to New Jersey



1993 The Prestons, New Jersey



1993 KMK, Christine, New York



1993 Us, Christine, John and Morag Preston, New Jersey



1993 October, Off to Turnberry Hotel for Golf



1993 KMK, Christine, Ledcameroch



1993 Christine, Xmas, Ledcameroch



1993 Us, Grandpa, Judy, The Cochranes, Xmas, Ledcameroch



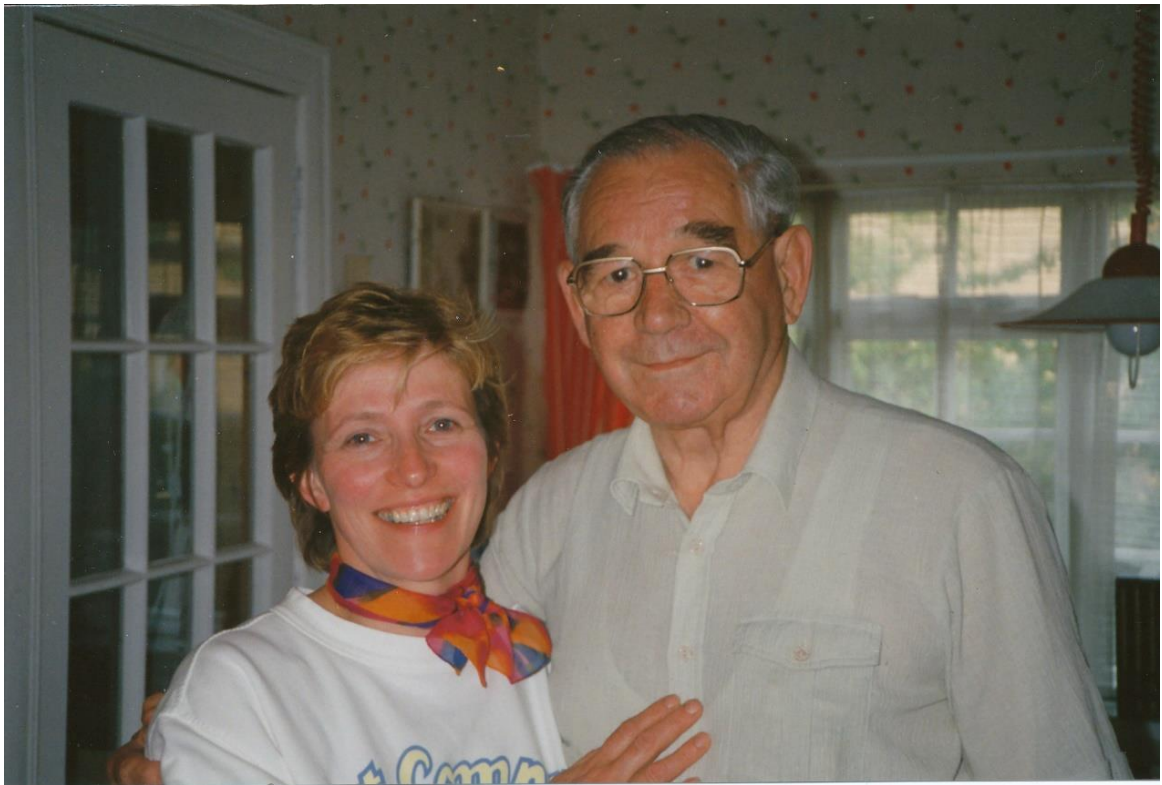
1994 Us, Elaine, Jenny, Off to New Lanark



1994 New Lanark, Jenny *et al*



Mum, Fraser, Murray, Katie, Buchanan St



1994 Christine, Mick, Ledcameroch



1994 Christine, Quinto de Facho, Portimao, Algarve, Portugal



1994 KMK, Christine, Quinto de Facho, Portimao



1994 KMK, Christine, Monchique Mountains



1994 Max, Alto Golf Club



1994 Us, Monchique Mountains, Algarve



1994 Kirsty, Samson, Auchineden



1994 Christine, Ledcameroch



1994 Us, Xmas, Ledcameroch



1995 February, Vet Ball



1995 June, Katie, Glasgow High School Final Day



1995 Jeremy Woods Wedding, Ron and Ailsa, July, Cotswolds



1995 The Wood's Wedding



1995 Casa Tanoeiro, Algarve, Portugal



1995 Casa Tanoeiro, Algarve



1995 Christine, Kirsty, Katie, Casa Tanoeiro



1995 Max, Kirsty, Casa Tanoeira



1995 Us, Lagos, Algarve



1995 Le Meridien Penina Hotel, Algarve



1995 Penina Hotel, Pops



1995 Us, Le Meridien Penina Hotel



1995 Us, Le Meridien Penina Hotel



1995 Max, Le Meridien Penina Golf Course



1995 Kirsty, Shuni, Auchineden



1995 December, Max, Ledcameroch



1995 Xmas, Aunt Lesley



1995 Us, Xmas, Ledcameroch



1996 Kirsty, Christine, Shuni, Easterton



1996 Kirsty, Shuni, Easterton, Campsies-Dumgoyne



1996 Christine, Easterton



1996 Shuni, Christine, Kirsty, Katie, Mugdock



1996 Sean Preston's Wedding, Jersey, July, Christine Preston's Mum



1996 Kirsty, Casa Tanoeira, Algarve



1996 Kirsty, Casa Tanoeira



1996 Kirsty, Casa Canoeira



1996 Max with Nicky, The Smiths, Christine, Algarve



1996 Kirsty, Max, Monchique



1996 Monchique, Kirsty, Max, Nicky, Christine



1996 Monchique Mountains, Algarve



1996 Us, Xmas, Ledcameroch



1996 Us, Xmas, Ledcameroch



1997 Kirsty 14th Birthday, Ledcameroch



1997 Kirsty, Shuni, Easterton



1997 May-Christine, Shuni, Kirsty, Easterton



1997 Ledcameroch



1997 Max, Douglas *et al*, GHS Final Year Celebration



1997 Departure from Ledcameroch



1997 Stretch Limo Ledcameroch



1997 August, Sun City, South Africa



1997 August, Sun City



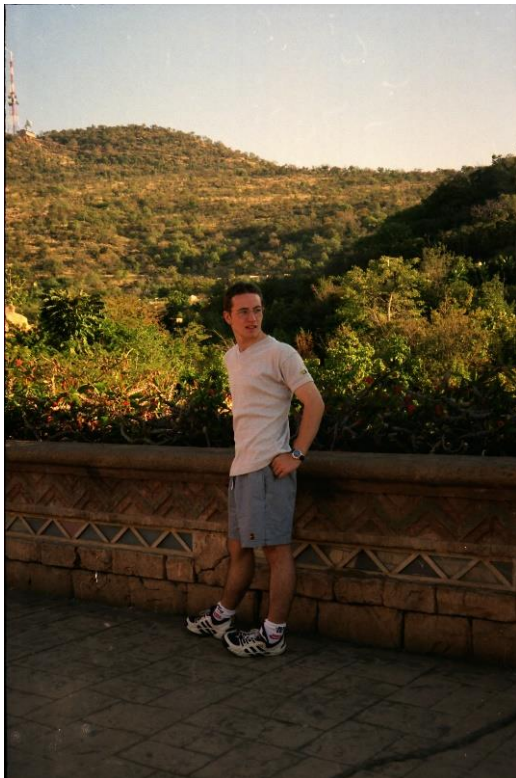
1997 Sun City, August



1997 Katie, Kirsty, Sun City, Jet Skiing



1997 Max, Sun City, Jet-Skiing



1997 Max, Sun City



1997 Me, Sun City



1997 Kirsty, Shuni, Easterton



1997 Grandpa, Kirsty, Shuni, Christine, Easterton



1997 Grandma, Grandpa, Us, Xmas Fairways Milngavie Lesley's



1997 Us, Xmas, Ledcameroch



1998 Katie's 20th Birthday



1998 Katie's 20th Ledcameroch



1998 Kirsty's 15th Birthday



1998 Kirsty's 15th Birthday with Rebecca, Nicola *et al*



1998 Grandpa's 78th Birthday, Ledcameroch



1998 Max's 19th Birthday



1998 Kirsty, Shuni, Easterton



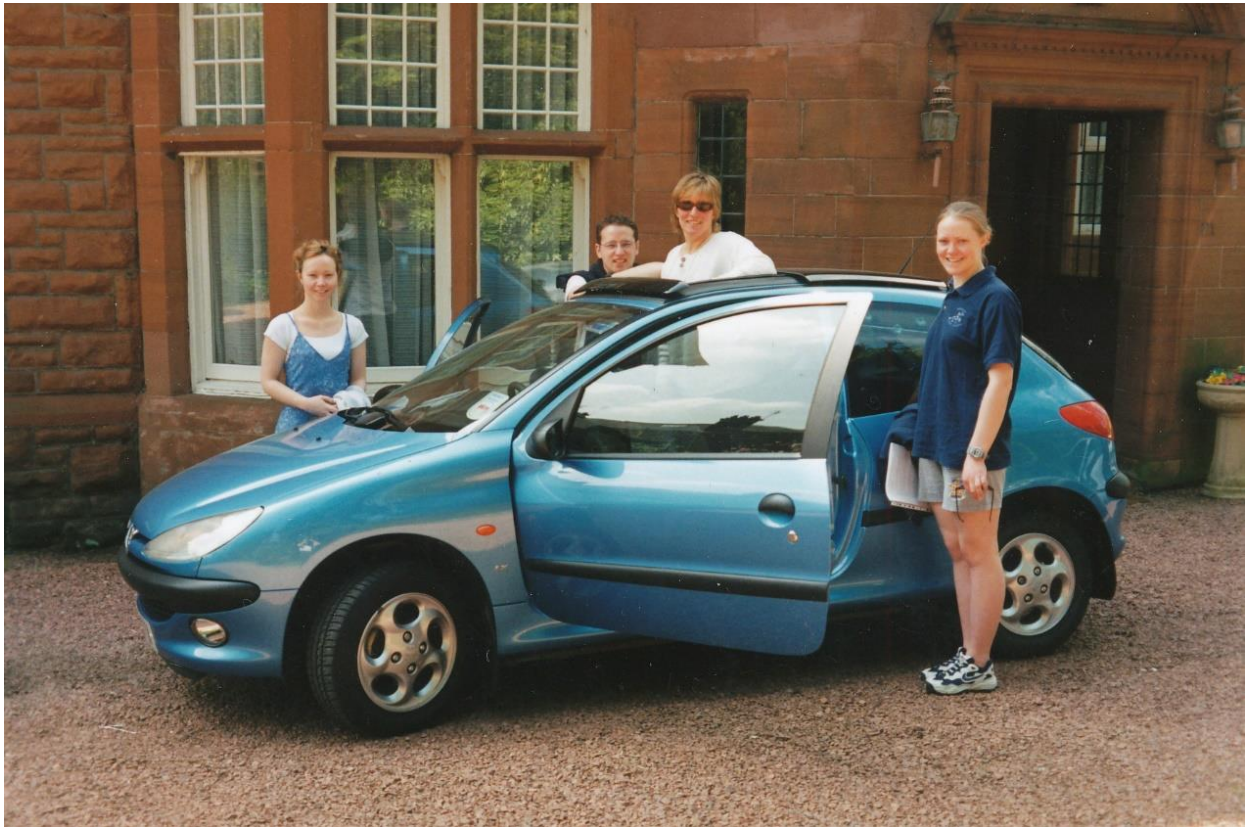
1998 Kirsty, Christine, Coolmore, Ireland, September



1998 Beautiful Kirsty Xmas



1998 Grandma, Grandpa, Us, Xmas Party at Lesleys



1999 Katie's 21st Birthday Present



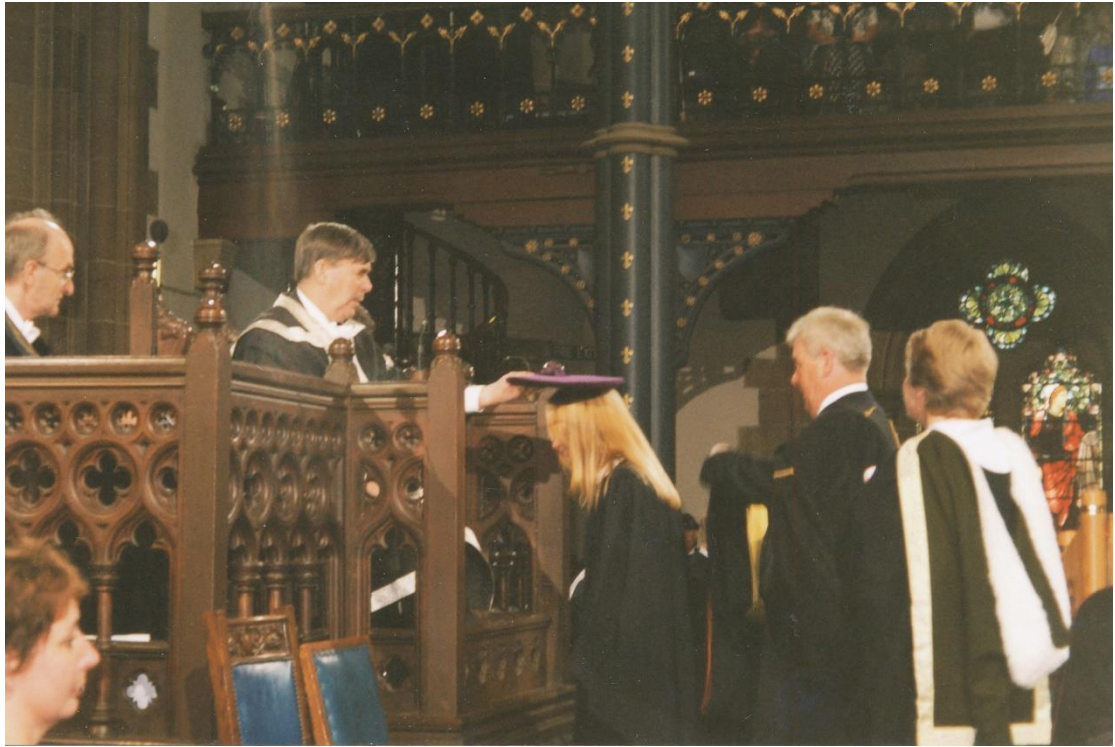
1999 Kirsty's 16th Birthday



1999 Max's 20th Birthday



1999 My 60th Birthday, Wood Room



1999 Katie's Graduation by Principal Sir Graeme Davis



1999 July, Katie's Graduation University of Glasgow



1999 Glasgow University Cloisters



1999 Katie and Peter, YES Restaurant and Ledcameroch



1999 Katie's Graduation lunch at YES (Ferrier Richardson)



1999 Kirk Thomson's Wedding



1999 Kirsty, Shuni, Gleneagles



1999 Kirsty, Shuni, Easterton



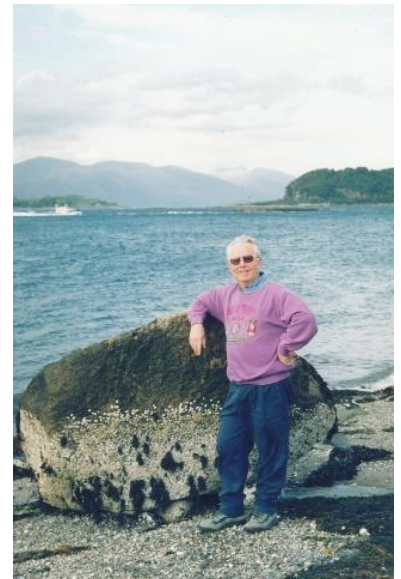
1999 Kirsty, Shuni, Easterton



1999 Kirsty's Bedroom, Ledcameroch



1999 Christine, Eriska Hotel nr Oban September



1999 Eriska nr Oban, September



1999 Mum, Ron, Christine, Max, Fairways, Xmas





1999 Christine's Birthday



2000 Katie's 22nd Birthday



2000 Kirsty's 17th Birthday



2000 Grandpa's 80th Ledcameroch (30th January)



2000 Mick, Bobby Graham and Christine, Grandpa's 80



2000 Max's 21st Birthday



2000 Hugo from Aviemore



2000 Max's 21st Birthday Present



2000 Off to Otter Ferry, Kilfinnan Hotel by Loch Fyne, May



2000 Christine, Loch Fyne



2000 Christine Morag Preston's Wedding, London, June



2000 Christine, Kirsty, Shuni, Easterton



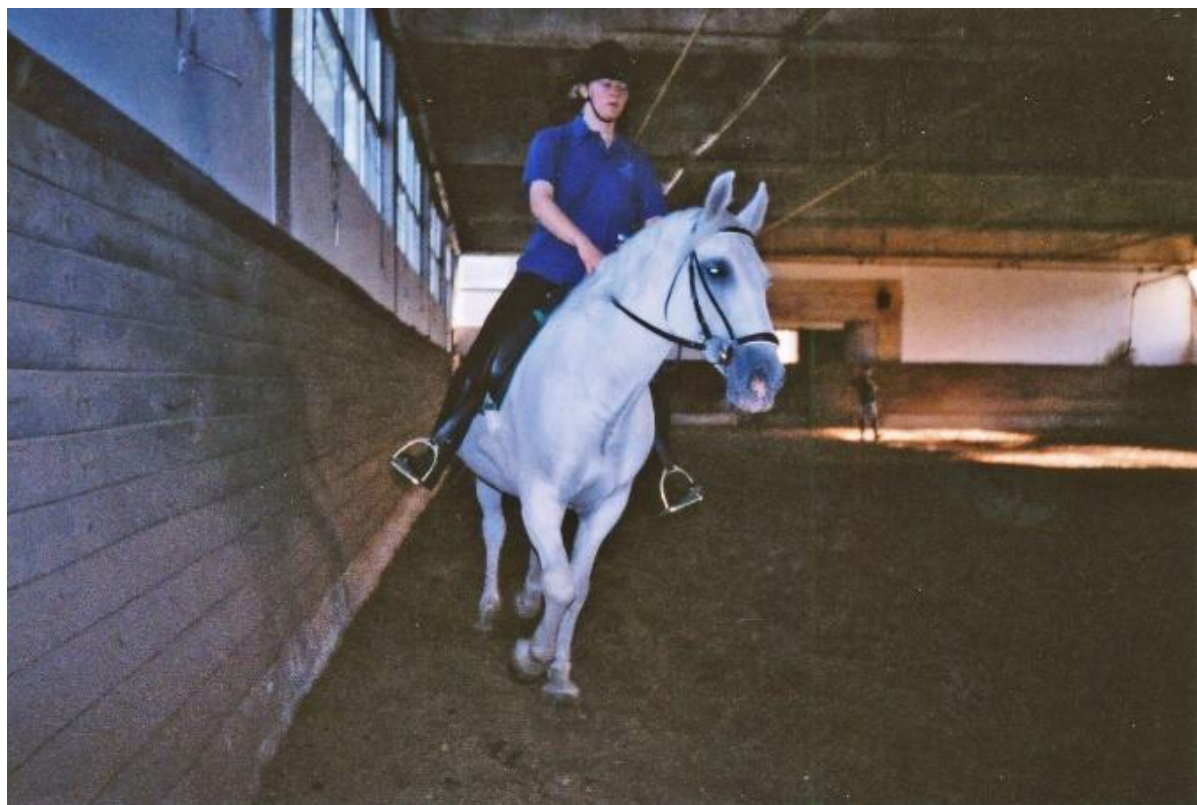
2000 Kirsty, Christine, Grandpa, Slovenia, September



2000 Kirsty, Pluto Lipizanner, Kobilarna Stables, Riding Lessons, Lipica



2000 Kirsty, Pluto Lipizanner, Kobilarna Stables



2000 Kirsty, Pluto Indoor Riding Lessons, Kobilarna Stables



2000 Christine, Pluto, Kirsty, Grandpa



2000 Kobilarna Stables, Lipica



2000 Us Lipica



2000 Kirsty, Grandpa, Christine, Skocjan Caves



2000 Christine, Grandpa, Kirsty, Kope, The Adriatic



2000 Grandpa, Christine, Kirsty, Trieste



2000 The Lipizzan Stables, Lipica, Slovenia



2000 Kirsty, Shuni, Easterton



2000 Max, Ledcameroch



2000 Christine, Max, Xmas Ledcameroch



2000 Kirsty Xmas Ledcameroch



2000 Max, Katie, Xmas Ledcameroch



2000 Us, Grandpa, Ledcameroch, Xmas



2001 Christine, Kiwi, Easterton



2001 Max, Kiwi, Grandpa, Kirsty, Christine, Ledcameroch



2001 Shuni retires to Killiekrankie: Kirsty starts Glasgow Vet School



2001 Our Cars



2001 Us Ledcameroch



2001 Max's Graduation (Double First), Strathclyde University





2001 Katie, Max (Double First), Kirsty, Strathclyde University



2001 Katie July P-G Teaching Diploma (Highest Level) Jordanhill



2001 September, Us, Opening of Weipers Centre for Equine Welfare



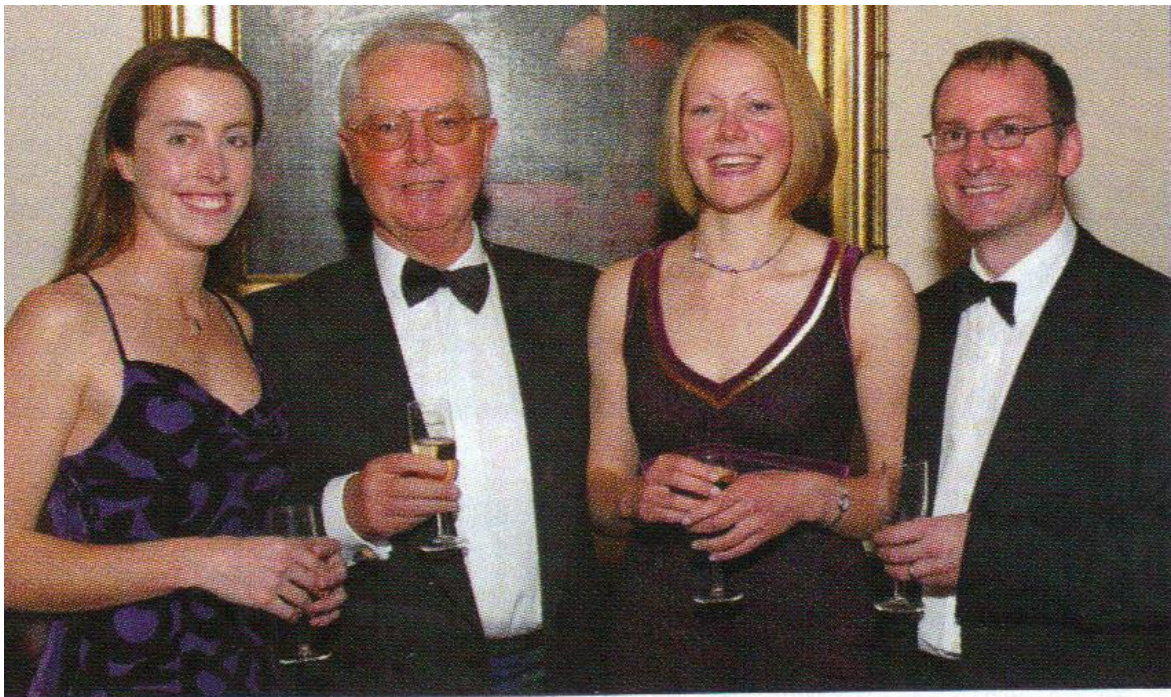
2002 Us, Reids, David and Jenny Hodson



2002 Us, Mellors, Reids, Hodsons, Bilsons, Sandy Love



2002 Grandpa, Christine, Ledcameroch



Felicity Cole, Max and Kirsty Murray, and Mark Billson.

2002 Scottish Australian Association Dinner, Edinburgh



2002 Us, Christmas, Ledcameroch



2003 January, Our New Mini Cooper S Ledcameroch



2003 Katie's 25th Birthday, Ledcameroch



2003 Kirsty's 20th Birthday, Ledcameroch



2003 Max's 24th Birthday, Ledcameroch



2003 May, Katie at Knockhill Racing Track (Birthday Present)



2003 No11 Katie's Car



2003 Kirsty Lambing in Wales



2003 Christine, Kiwi, Ledcameroch



2003 March, Liam Morrison's Wedding



2003 April, Us, Black Bull Killearn



2003 April: Christine, Kirsty, Vila Vita Parc, Armacao di Pera, Algarve



2003 Vila Vita Parc, Algarve



2003 Vila Vita Parc, Algarve



2003 Kirsty, Christine, Vila Vita Parc, Algarve



2003 McAinshs, Mellors, Reids, Kirsty, Christine, Me, Lux Restaurant, Glasgow



2003 British Arabian Horse Show Fontwell Park, Stuart Carmichael, Graham Paterson, Joyce Wasom



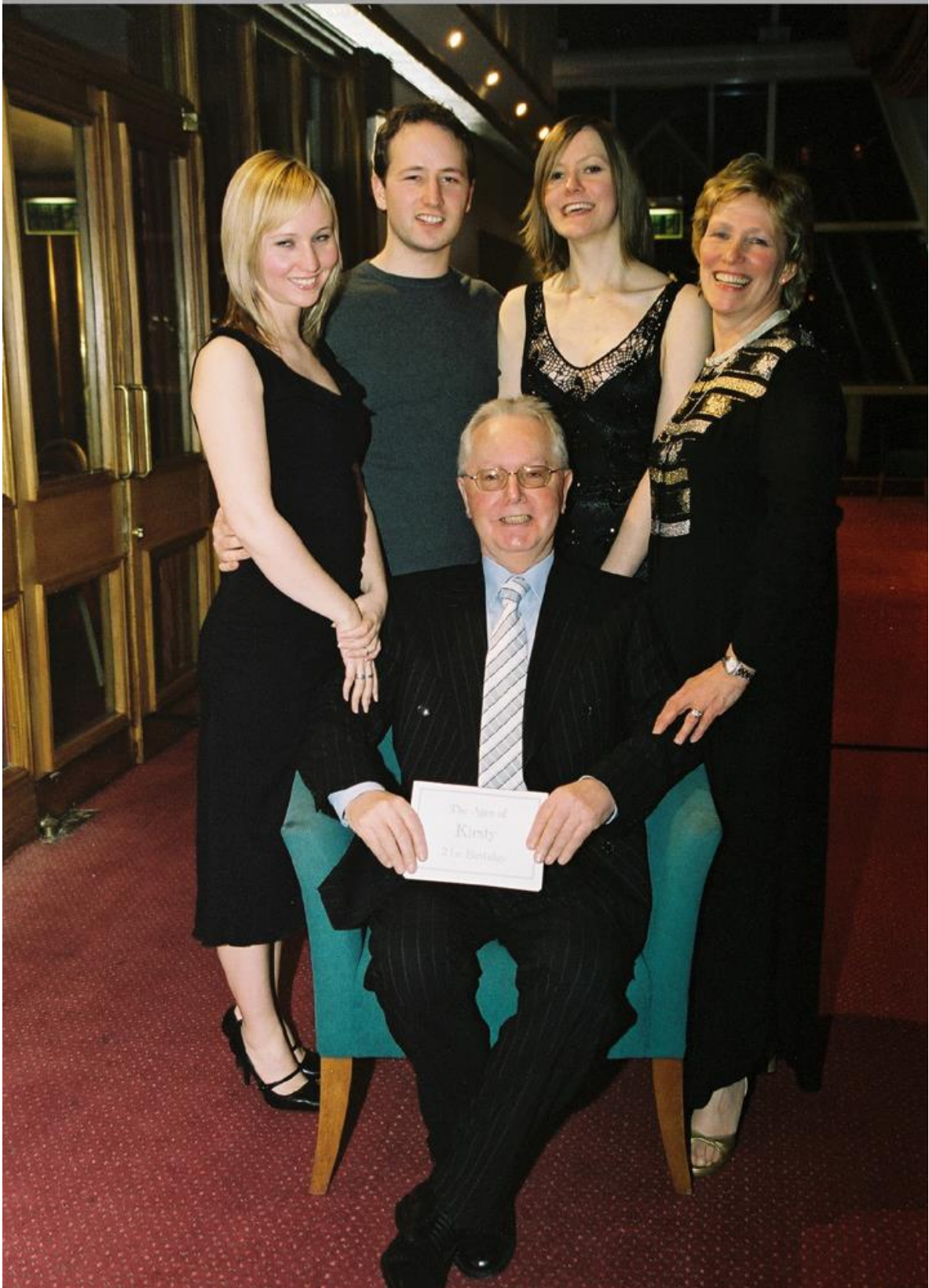
2003 Tim, Judy, Grandpa, Katie, Christine, Ledcameroch



2003 October Bill and Anna Jarrett, Freda and Ruth, Freyda, Morann, Gladys, Us, Malmaison Hotel



2003 November, Christine, Jenny, Jackie, Paddy, Philadelphia



2004 Kirsty's 21st Birthday Party Us, Moat House Hotel, Finnieston



2004 Kirsty's 21st Birthday Party, KMK, Moat House



2004 Kirsty's 21st Michael-John, Lesley, Pops, George Gettinby



2004 Kirsty's 21st Birthday Party Speech, Me. Sandra and Alan May *et al*



2004 Kirsty's 21st Birthday, My Speech



2004 Kirsty and Friends, Ledcameroch



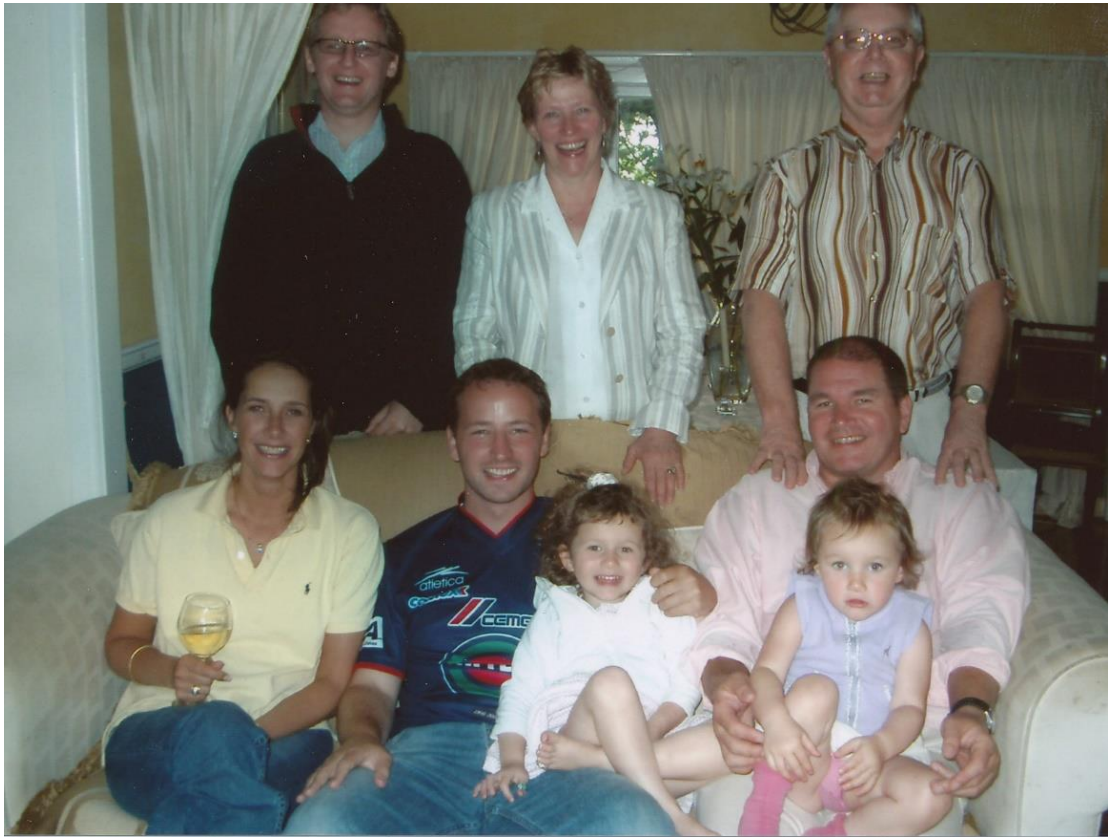
2004 Christine, Ledcameroch



2004 Kirsty and Jane, Australia



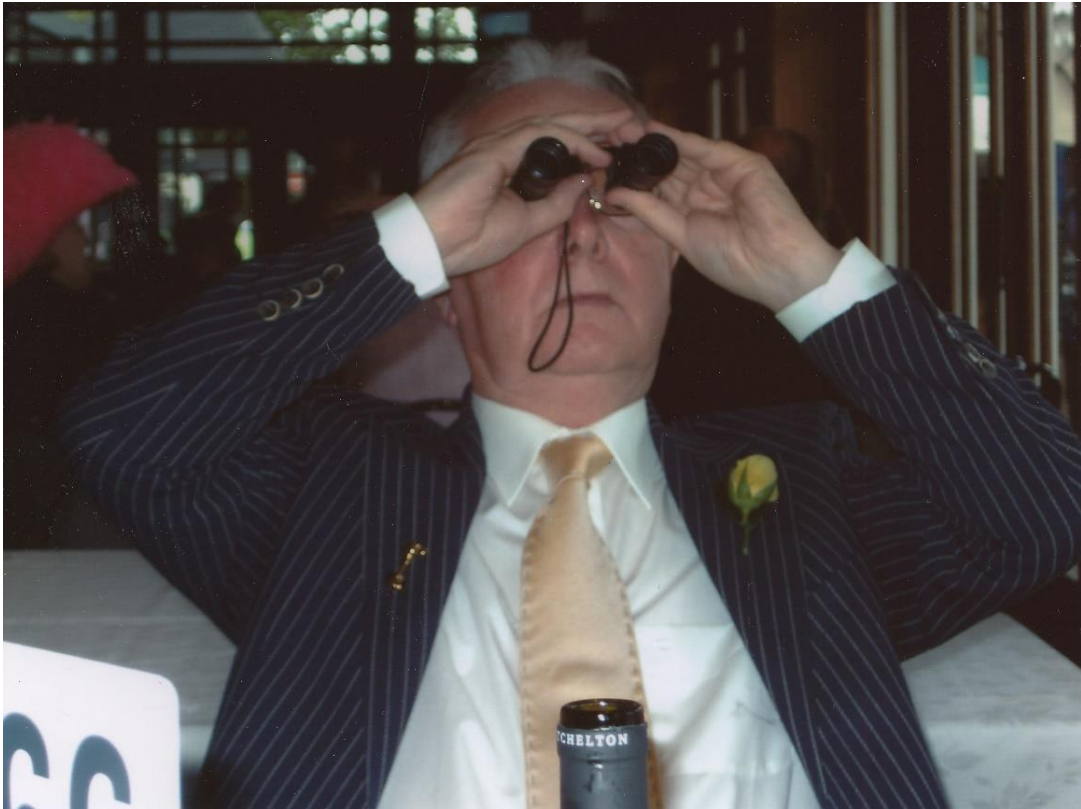
2004 Christine, Sheraton Hotel, Melbourne



2004 Griff Dalglish and Family, Stuart Reid, Us, Melbourne, 1st November



2004 Melbourne Cup, Christine, Two Stuarts, Griff *et al* Tuesday 2nd Nov



2004 Pops, Melbourne Cup



2004 Christine, Sydney Opera House and Bridge



2004 Sydney Bridge, Christine, Max, November



2004 Sydney



2004 W Hotel Woolloomooloo Sydney, Our Hotel



2004 Hunter Valley, Our Limo



2004 Hunter Valley



2004 Hunter Valley



2004 Our Purchases, Hunter Valley



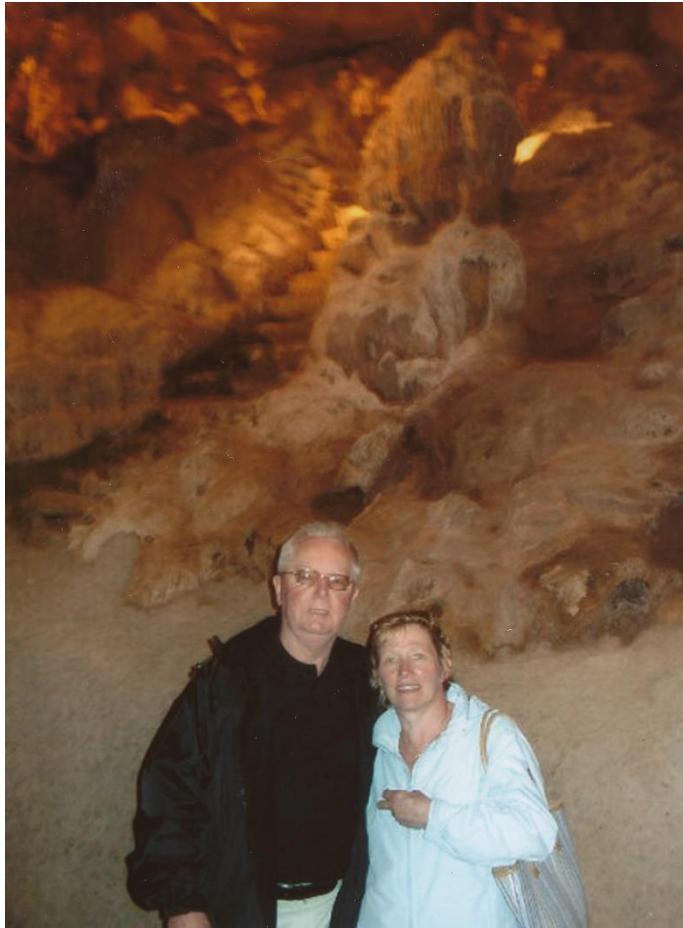
2004 Sydney Harbour



2004 Taronga Zoo: View of Sydney



2004 Christine, Manly



2004 Jenolan Caves



2004 The Blue Mountains



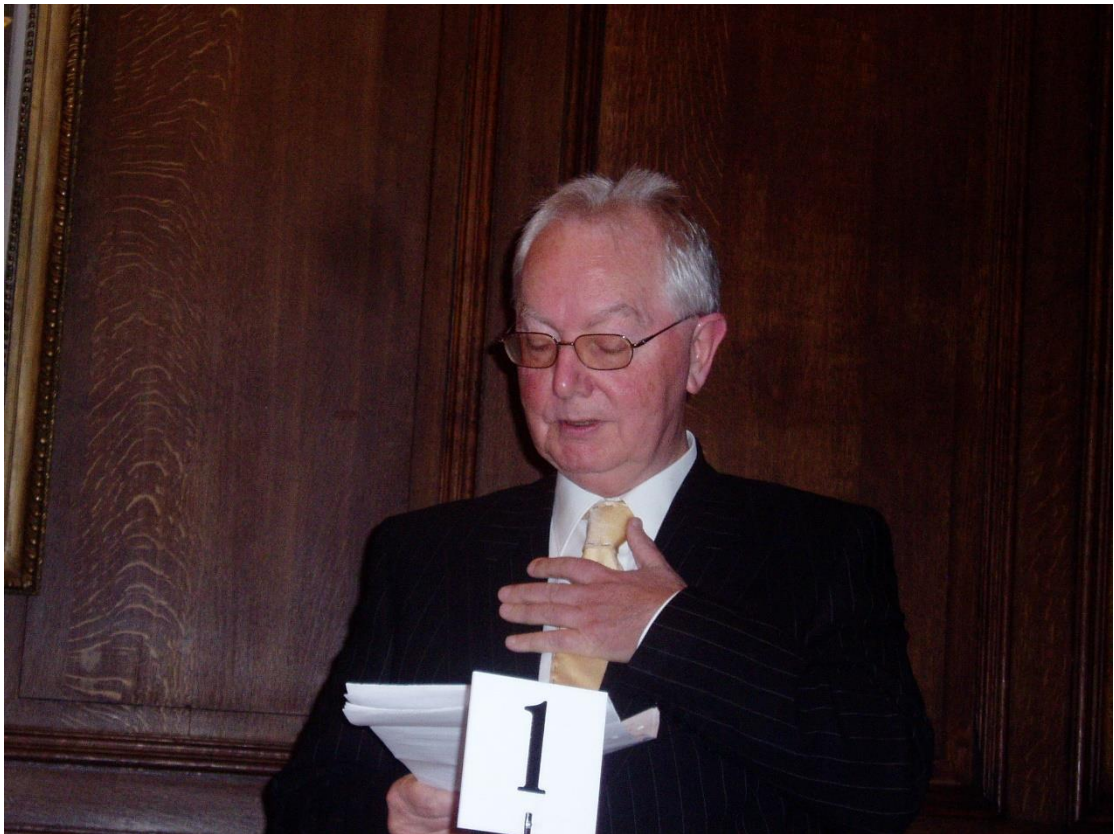
2004 Christine, Home in Ledcameroch



2004 Jimmy Armour, My Farewell University Dinner 3rd December



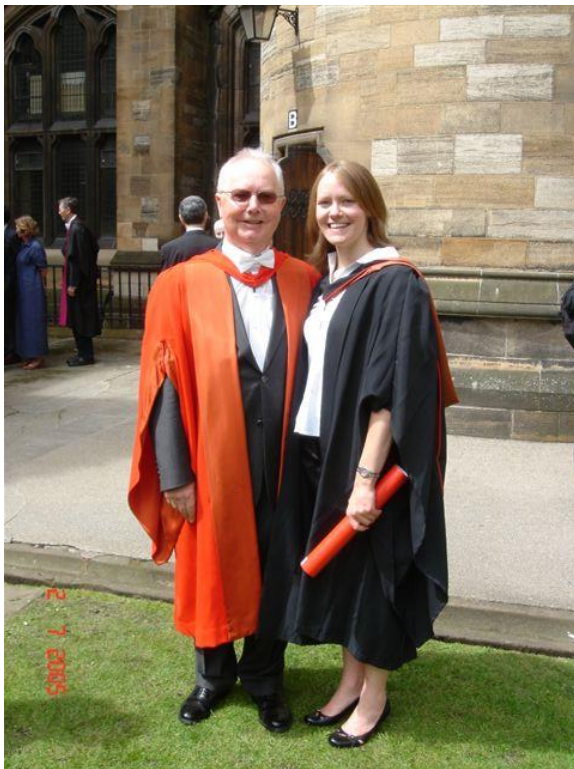
2004 Farewell Dinner, Sandy Love, Graham Paterson



2004 Farewell Speech, University Farewell Dinner 3rd December



2005 2nd July, Kirsty's Graduation, University of Glasgow





2005 Kirsty's Graduation, Pops Processing



2005 Kirsty's Graduation, Us



2005 July, Katie, Kirsty, Hamilton Island, Australia



2005 July, Kirsty and Katie, New Zealand



2005 Kirsty, New Zealand



Katie, Sydney



2005 October, Angela Gillies, Armstrongs, Reids, Hutchisons, MacLeods, Us



2005 Dubai, October, Christine



2006 Us: Loch Morlich January, KMK, Peter, Tom, Bec, Me and Christine



2006 Us, Aviemore, January



2006 Stirling Castle, May



2006 Kirsty, Tom, Mickey, Lincoln, May



2006 Kirsty's House, Lincoln, May



2006 May, Philadelphia



2006 GOM Norrie, Hugh, Myrtle, Me



2006 Off to Stella's Honorary Degree, July



2006 Stella Brewer/Marsden, Honorary Degree



2006 Stella and Heather "Brewer" Celebrating at Ledcameroch



2006 September, Judy, Tim, Christine, Kiwi



2006 Christine 30th Wedding Anniversary, Crinnan



2006 The Crinan Hotel and Canal



2006 Ice Bar Sydney, October



2006 December Me, Anne Wardrop, Margaret Martin, Katie, Peter, Ledcameroch



2006 Xmas Tom, Kirsty, Christine, Katie, Mickey, Kiwi, Ledcameroch



2006 Kirsty, Tom, Mickey, Lincoln



2007 March: New BMW



2007 Kiwi, Christine, The Crinan, Vital Spark, May



2007 Christine, Loch Melfort Pier, May



2007 Talisker Bay, July, Christine, Kiwi, Katie, Skye



2007 Talisker Bay, Christine, Katie



2007 Roganos, Wardrops, Murrays, Peter Martin, July



2007 50th Reunion of Class of '57 Hilton: Left and 4th and Centre on Front Row



2007 11th November, Remembrance Day



2007 Grandpa, Colin MacGregor (Ewan MacGregor's brother), Erskine



2007 John, Rebecca, Eve, Hope Staheli, Us, Ledcameroch



2008 Katie, Bec, Max, Kirsty, Tom, New York



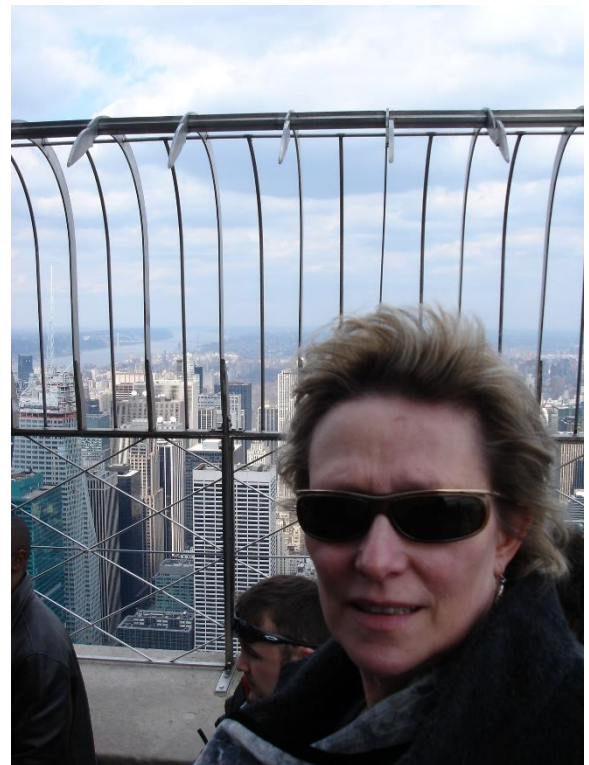
2008 Dean, Jenny, Tom, Kirsty, Katie, Christine, Grand Central Park, New York



2008 Katie, Kirsty, Tom, Statue of Liberty



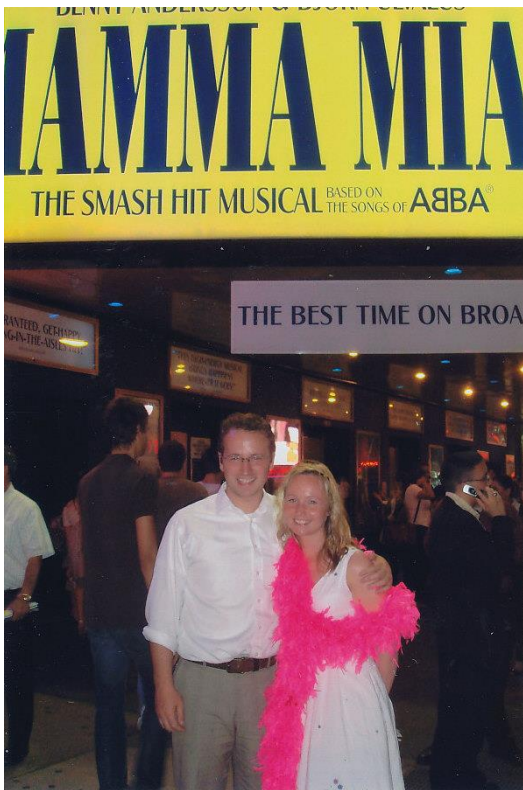
2008 Katie, Grand Central Park
Robert Burn's Statue



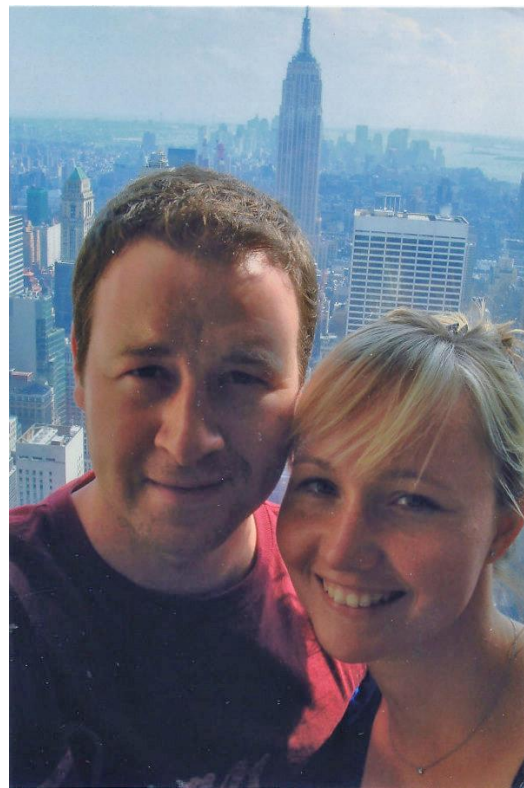
Christine, Statue of Liberty



2008 Bec, Katie, Christine, New York



2008 Max, Katie, New York



2008 Peter, Katie, New York



2008 December, Max and Bec, New York



2009 March, Max and Bec become Engaged in Grand Central Park, New York



2009 Christine, Kiwi, Milngavie Water Works



2009 Katie and Peter, Portree



2009 July, Ledcameroch, Our Cars Bound for Skye to Katie's Wedding



2009 July, Katie, Elaine, Elisabeth, Kirsty, Bec, Off for the Hen weekend!!!



2009 24th July Katie and Peter's Wedding



2009 24th July Us, Skeabost Country House, Skye



2009 What a Beautiful Picture, Loch Snizort



2009 24th July Wedding Gathering of The Clan, Loch Snizort, Skeabost



2009 Beautiful Katie



2011 May 4th Peter Maxwell 1st Birthday, Portree



2010 3rd June, Max and Bec, Brig o'Doon Alloway **BEC MARRY ME**



2010 3rd June Us Max and Bec's Wedding



2010 June 3rd Max and Bec's Wedding



2010 Bec and Max, Sydney



2011 New Year 1st January Wood Room



2011 Hampshire, Peter Maxwell, January



2011 Me, The Victory and The Ark Royal, Portsmouth



2011 June, Us, Ledcameroch



2011 June, KMK, Peter Maxwell, Pops, Ledcameroch



2012 Kirsty, Christine, London Eye



2012 Kirsty and Pops, Tithe Barn Hampshire, 26th September



2012 26th September Us, The Wedding



2012 Beautiful Kirsty and Tom: The Big Day



2013 October: Bec, Max, Christine, Molly Mollymook, Oz



2013 October, Bec, Max, Christine, Oz



2013 Xmas, Ledcameroch



2013 Us, Sprout, Xmas, Ledcameroch



2013 Xmas, McGinleys, Martins with Peter and George



2014 June, Christine



2014 Xmas: Us, Peter, Martha and George *et al*, Ledcameroch



2014 Us at Evelyn and Ians, 28th December



2015 Max and Tony Abbott, Prime Minister of Australia



2015 The Murrays in Hawaii

OUR FAMILY REUNION 18th APRIL-5th May 2015 and ONWARDS



2015 Shuni, Martha, Kirsty and Uncle Max, Hampshire



2015 The Murrays in Hampshire

Ledcameroch







2015 Kirsty, Peter, Martha, George, Ledcameroch, May



2015 Max and Molly back home in Sydney



2015 The Kelpies: Max's visit in October

OUR GRANDCHILDREN AND ONWARDS



2013 May: The Martins, Murray and Marie's Wedding, Dunglass, Estate Dunbar



2014 December: The McGinleys Hampshire

NO 1



2011 Peter Maxwell Martin born 4th May 2010



2014 George Allen Lamont Martin born 16th May 2012



2014 George and Peter Martin in Portree



2015 Peter, Elsa (born on 26th August) and George, Christmas



2014 Maxwell William Murray born 31st August 2011



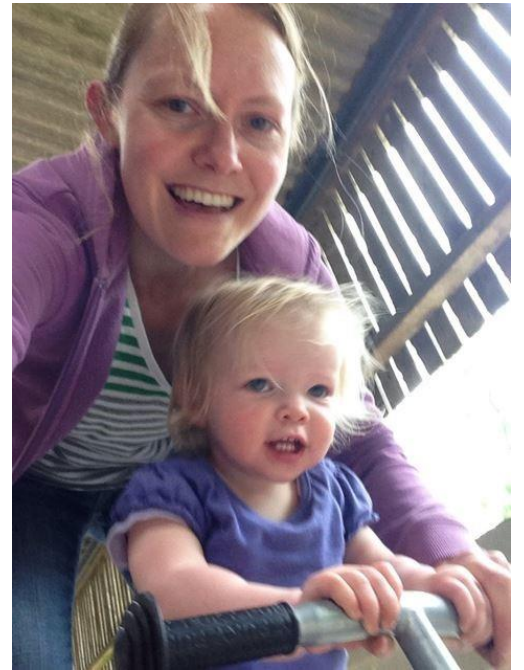
2014 Molly Anne Christine Anne Murray born 30th May 2013



2015 Molly and Max August, Sydney



2015 Max, Michael and Molly, Christmas, Sydney



2014-15 Martha McGinley (born 26th March 2014) et al



2015 Martha, August



2015 Martha feeding Shuni and Mickey



2016 Martha and Friend: A Wander in the Woods



2016 Beautiful Martha



2015 Michael James (born 8th November 2014) and Max Murray, Sydney



2015 Michael, December

2015 Elsa MacKenzie Davidson Martin 26th August



1st Birthday



Edward John Maxwell McGinley

22nd March 2016



Continued from Page 528



2015 The Murrays: Christmas Day in Oz

2016



2016 The Murrays, Martins, McGinleys, Mickey and Sprout, January 6th



2016 The Martins, McGinleys and Murrays, New Year 6th January



Max **1983** 4yrs 4 Months



Max **2016** 4yrs 7 months



2016
Elsa and
Martha



2016 The Murrays



2016 The McGinleys

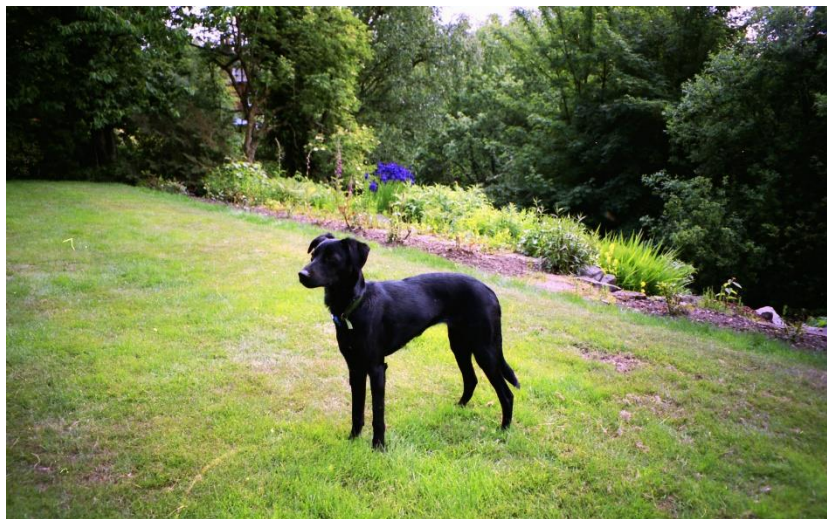
XVII. KIWI (Picture Story p.548)

Kiwi arrived at Ledcameroch in 2001 when Grandpa came to live with us. She was a rescue dog from Cardonald Dog and Cat Home and we gave her a birthday date of 3rd May 2000-my birthday. She was an All Black-hence her name. She was still a puppy with long spindly legs and masses of energy. Katie, Max and Kirsty were thrilled, at last they had the dog at Ledcameroch they always wanted. Kiwi turned out to be a real character and an integral member of the Family. I said she was a New Zealand Hunting Dog, a “fact” that most of our fellow dog walkers believed: her Whippet genes gave her great speed and her Collie genes intelligence and athletic ability enabling her to participate in a combination of games in the garden, including football and catching tennis balls, as well as chasing deer and the odd fox. She formed an amazing relationship with all of us. To me as a Vet who loves and respects animals, it was a deep learning experience of a long lasting and evolving friendship, almost human. Her gentle nature meant that she didn't and does not destroy her toys which she has received from all over the world-Australia, USA, Dubai etc., resulting in the accumulation of a vast collection. Woe betide the returning traveller who didn't arrive with a present for Kiwi. Her BMW Mini Dog Bed is her pride and joy. She turns the mattress to ensure that it is to her level of comfort, though the settee is her favourite spot, especially in the evening, and when we have a full house she can be quite put out if her seat is occupied. Kiwi is not a great traveller but has enjoyed visits and walks over the years at Crinan, Loch Melfort and of course Skye. She was diagnosed early on with a wheat intolerance, so she has designer meals of home cooked chicken and Lamb, topped with boiled rice and mixed vegetables-something she has given up until 2016, when replaced by diet pellets. Apart from a one off series of four very distressing seizures in December 2006, and in January 2015 a very severe episode of anaemia and liver damage of unknown aetiology, from which, with the help of the local Vet and the Vet School at a cost of £2000 and of course ImmunoVet (**XV:6.3**), she recovered. Kiwi has many friends, both human and canine, and several that she does not have much time for. Mickey, Kirsty and Tom's little white Jack Russell, is her best pal, and more recently Sprout, their

Large Lurcher. Her most favourite person is of course Christine, followed by the Postman, Uncle Johnny, and by our Grandson from Skye George Martin-she becomes the centre of attention and hugs as soon as George arrives, although she is not all that enthusiastic when she is smothered by his hugs.

Kiwi is now a Grand old Lady aged 16 in 2016, still with a beautiful black shiny coat interlaced with grey hairs. She takes great care of all of us.

PICTURE STORY Our Kiwi 2001-----



2001 Kiwi Ledcameroch



2001 Kiwi, Grandpa, Max, Christine Garscube Estate



2001 Kiwi *et al* Ledcameroch



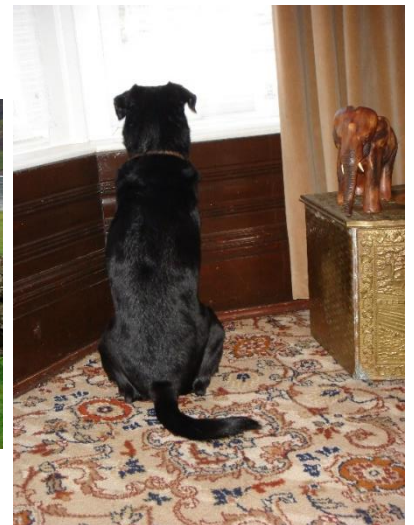
2006 Kiwi Ledcameroch



2006 her Footballs



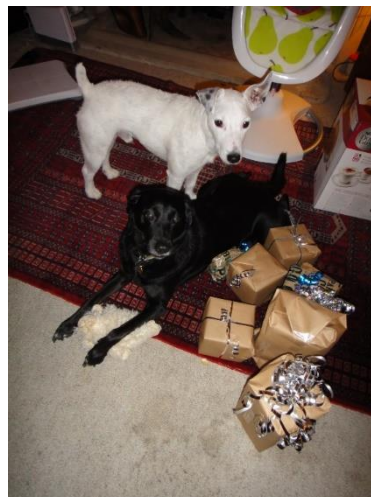
2007 Talisker Bay



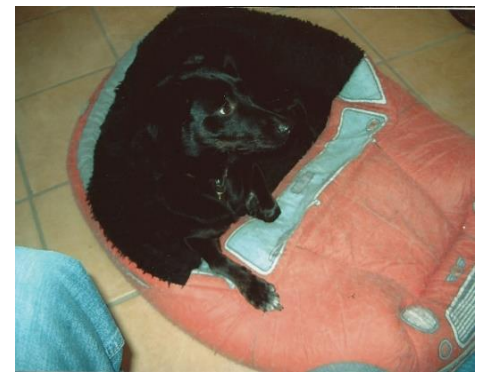
Waiting for Christine



2007 Mickey and Kiwi



2010 Mickey Kiwi



Kiwi in her BMW Mini

XVIII. OUR CARS (Picture Story p.552)

I passed my Driving Test in Paisley in 1961.

I never bought a second hand car apart from our summer leave from Nairobi in 1980 when Rosie Brown got me a Ford Escort Saloon which I very much regretted and a Red Audi In June 2015.

I bought my first car in 1962, a Red Mini, an iconic car that had just appeared for the first time. I cancelled it the next day because Dad had a heart attack and I was the sole bread winner. In 1963 on arrival in Nairobi, I shared a Morris 1100 (Registration KHP 571), provided by Ian McIntyre, with Douglas McEwan and Ian Glenn. Sharing was no good, and on the advice of George Urquhart I bought a brand new Dark Blue Saab (KHT 550), borrowing the £550 from The Faculty- it was a fantastic car with a two stroke engine and a column gear change. In it, I did a wonderful safari around Uganda with Gladys and Morann, including a visit to Murchison Falls, the source of the Nile **(XI:2)**.

On my return to Glasgow in April 1965, my next car was a light blue MG 1100 (CYO 650C) which was replaced 11 months later with a white Triumph Spitfire two seater Sports Car which was fantastic fun-I once fitted 3 girls into the back with one in the front. From 1968, I had a series of four seater Triumph convertibles, the first a blue 13/60, then in 1969 a blue Triumph Vitesse 2 litre Sports designed by Giovanni Michelotti-very fast, then 1971 a Red Vitesse(PGA 651F) waa! My next car was an orange Triumph Dolomite Saloon, just launched, which I got in 1972 (Y66 882J). All my Triumphs came from MacHarg, Rennie and Lindsay, located next to St Andrews Halls. Rosie Brown sold the Dolomite for me when Christine and I went to Geneva in 1975.

In Geneva in late 1975 we ordered a white air conditioned Volvo saloon for delivery in Nairobi in 1976. The public transport in Geneva was so good we did not need a car!!!

Our Volvo KQR 015 was fantastic during our time in Kenya. We kept it for 10 years until we left in 1985 when we sold it for £5000 having bought it for £3400. What a great car!!! The air conditioning was wonderful for Kenya. In 1978 we bought a new yellow Daihatsu KVD 134 for 42000 shillings at the Nairobi Show. In our 6 weeks in The Gambia in 1976 we had a fantastic little white air-conditioned Honda.

When we returned from Nairobi on 1st July 1985, there was a brand new silver grey Volvo Estate (B669 DDS) in Glasgow Airport Car Park tied up in a white ribbon. Lesley had bought it on our behalf. When we all got in and I switched on the ignition Harry Lauder started to sing "I Belong to Glasgow" and we drove to Titwood Road. We also had a large new dark red Ford Estate provided by James

McAinsh (M&B), soon replaced by a new dark blue Volkswagon Golf (C115 FUH) which I later bought at a very good price from M&B. Then in 1990 we replaced these with another silver grey Volvo Estate (G870 RGE) and a silver grey Golf. In 1997, we bought a silver grey just newly out Volkswagon Passat Diesel (R789 HUS) which we kept for 10 years. Katie had an accident in the Golf in 1998. She was fine, but the Golf was a write off. We got a silver grey Volkswagon Polo instead (R321 GGE).

In 2002, the new BMW Mini appeared and in early 2003 I took delivery of a silver grey Mini Cooper S (SH52 NPJ)-what a fantastic car!!!-what acceleration!!! Kirsty took the Polo and it eventually ended up with her in Lincoln. Katie took the Mini up to Skye in 2007 and I got the Polo back. We then bought the best car we ever had-Christine's car- a dark blue BMW 320 Diesel Estate (T25 CMM). Alfa Romeo launched the new Mito in 2008, and in early 2009 I bought a Red Mito Veloce (SK09 YFY) for £13000. I gave the Polo to Stuart Wilson of the Fish Shop, MacCallums of Troon at Finnieston, and we got "free" Turbot, John Dory, Dover Sole, Prawns etc in return. I loved having a red Alfa, but it had its problems and the performance was not impressive. In 2013, John sold it for me for £7500 via The Herald. What next?

At the end of June 26th 2015, at Arnold Clarks we traded in our beloved BMW for £5300 and bought a bright red Audi A4 Avant (Estate) TDI Diesel Automatic for £21,000, cost new £32,000. It was exactly one year old and had 14,500 miles on the clock. Peter and Katie were a fantastic help and Katie had found the car on the Web. She said it was and is her 'Dream Car'!

PICTURE STORY Our Cars



1963 Morris 1100 KHP 571



1964 Saab KHT 550



Triumph Vitesse 1971 Dunure Ayr



1976 Honda MRC The Gambia



1976 Volvo KQR 015 Kilimanjaro



1976 Tsavo Christine Lesley



1978 Mum Dad Tsavo



1978 Daihatsu KVD 134



1985 Our New Volvo and Golf



1988 Volvo B669 DDS Cairngorms



1989 Off to Aviemore



1989 Volvo B669 DDS Coylumbridge



1992 New Volvo and Golf (1990)



1992 Off to Centre Parcs (G870 RGE)



1997 Ledcameroch



1997 Volkswagon Passat R789 HUS



1999 Katie's 21st Birthday Present



1999 S21 KTM Peugeot: Polo R321 GGE



2002 Family Cars (Max, Katie, Kirsty



2003 My Mini Cooper S SH5 NPJ



2007 BMW Estate 320D T25 CMM



2009 July Off to Skye



2009 Katie's Wedding



2009 My Alfa Romeo Mito Veloce SK09YFY



2015 Our New Audi A4 Avant Estate Diesel Automatic T25 CMM



Kiwi above and below Christmas 2016



XIX. SOME PHILOSOPHY, POC DIAGNOSTICS, AFRICA ADVENTURES, POETRY and FAMILY

This Chapter contains a series of essays I wrote during 2010 and 2011 for fun and memories, and then for the 2012 150 Year Vet School Anniversary Book (**XIII:2.52**). As a result, there is duplication with the rest of my CV which I have tried to edit but have erred on the conservative side, particularly in relation to Africa, reluctant to forget. I have also included speeches I gave at Kirsty's 21st, and Katie and Kirsty's Weddings, and a Poem written about me.

1. REFLECTIONS ON THE MAGIC ESSENCE OF SUCCESS INDIVIDUAL EXCELLENCE----COLLECTIVE ACHIEVEMENT

"I'll give you a bit more dialogue/compliments: your enthusiasm and support of science when I was in your department still resonates with me today. Important leadership lessons I learned from you; Money is for spending, support the people most likely to be successful, don't be afraid to use personal influence to help advance people in your lab (you called John Donelson and got me on the course in the USA that changed my trajectory), and be a cheerleader for people." Chris Hunter, Professor of Pathobiology, University of Pennsylvania (2014)

The University of Glasgow Veterinary School has a World Class Status. The School has played a significant role in promoting Veterinary Medicine and Surgery to a front rank highly respected Profession, totally rationalising the approach to Teaching and Training, and in Research, delivering major discoveries in Cancer, Virology and Parasitology, for the benefit of animals and man.

This Essay reflects on our History and ponders our Success. It is a Story for our Global Alumni, our Staff, Students and Friends, past, present, and future, and of our Profession, and my Family etc. It is based on my privileged Journey from when I entered Glasgow Vet School in 1957 until the present. I am honoured to have been a participant and observer over the last 60 years.

What was the Magic Essence? It is a \$64,000.00 or nowadays a \$64 trillion question. The Holy Grail: How was Individual Brilliance converted into Collective Achievement. My Glasgow Experience would point to Leadership, Appointment of Talented People, a Visionary Interdisciplinary Strategy, Esprit de Corps, One-site Interactive Infrastructure and an International Outlook.

LEADERSHIP

Two remarkable men were pivotal, James McCall and William Weipers.

McCall (an Ayrshire man) founded Glasgow Veterinary College in 1862. He came from 'The Dick' Veterinary School in Edinburgh. His abilities are best exemplified by the conviction that Rinderpest must be some form of Contagion, and could only be controlled by slaughter, a belief contested by many, including, William Dick who had previously founded 'The Dick' in Edinburgh.

In 1949, William Weipers (another Ayrshire man) was appointed Director of Veterinary Education when the college was integrated into the Faculty of Medicine at the University of Glasgow. This was The Pivotal Event in our History. Weipers was an eminent General Practitioner in Glasgow and the West of Scotland. For his time, he had a unique Vision for the Profession, namely, that it should be closely aligned to human medicine, as One Medicine, a philosophy that determined the future of the Profession throughout the world. He promoted the following priorities:

IDENTIFICATION OF TALENTED PEOPLE

Weipers complemented an already gifted staff at the old College at Buccleuch Street e.g., Roddie Campbell, Angus Dunn, Nelly Smith etc., by making a series of inspired appointments, both Veterinary Surgeons and Science Graduates. These included, James Black (Physiologist, FRS, Nobel Laureate, 1988), Bill Jarrett (Pathologist FRS, Nobel Nominee), Ian McIntyre (first Professor of Veterinary Medicine in UK), George Urquhart (first Professor of Parasitology), Frank Jennings (Biochemist), Bill Mulligan (first Professor of Physiology), Bill Martin (Virologist), Donald Lawson (Surgeon), Jimmy Armour (Parasitologist): a Multidisciplinary Array encouraged to work mainly but not solely in an Interdisciplinary Fashion. They themselves attracted bright young graduates, Heirs who consolidated and expanded their achievements to the present.

STRATEGY

Weipers and Team led a well defined master plan that evolved over the next 60 years. Employing in what today would be a requirement of The MRC etc., for successful funding, namely, an Interdisciplinary Approach, whereby, the new

sciences and technologies are embraced into the established disciplines in a well defined infrastructure, with clear goals.

1. Veterinary Medicine should be Science and Mathematically based.
2. Multidisciplinary Departments must work in a range of Interdisciplinary Teams for both Teaching and Research.
3. Final Year must be Lecture-Free, with hands-on Clinical and Surgical Training.
4. Research must be based on the Concept of One Medicine, ie., Comparative Medicine, except with Animal Specific Diseases.
5. National and International Interaction was essential.

The study model often used involved a description of the naturally-occurring disease problem followed by a sequential analysis of the clinical and pathological changes in experimental infections, where appropriate. Data from the latter provided the template for an understanding of the pathogenesis of the disease under study and in turn its diagnosis, clinical classification and likely approaches for control, treatment or prevention.

This process needed a deep knowledge of structure and function, an appreciation, as per Lord Kelvin, of the importance of measurement, and an understanding that went from the gene to the patient, animal or man.

Such a Strategy is a challenge when dealing with intelligent and ambitious people. Weipers believed that One-Site was required and that *esprit de corps* was essential.

ESPRIT de CORPS

This was possibly the most important component of The MAGIC ESSENCE.

It started at the start in 1862 and progressively evolved during the Buccleuch Street era, in no small way catalysed by the ‘social attractions’ of the Friday

Night dances, infamous and popular throughout Glasgow (involving the Iconic Charles Rennie MacIntosh Art School just round the corner), the high octane card games, the comradeship of World War 2 with Army Veterans, National Service personnel, and naïve new entrants, like myself and Norrie Wright.

This *Esprit de Corps* was retained by Weipers and his Team during the integration of the old Vet College into The University, despite rapid expansion. While the normal frailties of Academia existed between and within the Old and the New, Weipers and his Senior Lieutenants' genius was not only to gather the best of men and women, but also to generate and sustain a pervading ambience of team spirit, motivation, entrepreneurial go, blue-sky thinking, and disciplinary interaction: offices, seminar rooms, black/white boards, corridors etc., as well as the Bar on the Sleeper to London revitalised by breakfast at The Savoy, were fully utilised. The Management Style ensured that all Personnel were recognised and appreciated: the Staff, the Students, the Secretaries, the Stockmen, the Nurses, the Administration, and of course the 'Tea Lady' Carol Murray. They all knew that they were part of The Team. Ergophobia was unknown (aversion). Disagreements were ephemeral

Our *Esprit* spawned out to the People of Glasgow and Scotland and the World. Taxi Drivers became some of our main advocates. This is possibly best exemplified by a very Dramatic Event in 1988/89. A committee chaired by Sir Ralph Riley reviewing Veterinary Education in the UK recommended closure of Glasgow, and also of Cambridge Vet Schools, 2 of the 6 Vet Schools in the UK. Our Vet School under the Leadership of Jimmy Armour, the then Dean, and Sir William Kerr Fraser, Principal of The University, rallied the troops. A petition with over 700,000 signatures (more than for the Poll Tax) was presented to The Prime Minister Margaret Thatcher at 10 Downing Street. The decision was reversed. Subsequently, Norman Wright, our next and longest serving Dean led a reinvigorated School through a Decade of Major Achievement.

ONE SITE CONCEPT: GARSCUBE

Despite the social attractions of Buccleuch Street with the infamous Friday night dances (the most popular in Glasgow), the Weipers' Vision could only be realised by building new facilities on One Site. Thus, The University purchased Garscube Estate in Bearsden in the West End of Glasgow. Garscube, a beautiful 200 acre location dominated by the Campsie Hills and bisected by the River Kelvin on its road to The Clyde. It had belonged to The Clan Campbell and was perfect for the evolution of the One Site Strategy, for Interaction and Philosophising.

The Clinical Facilities, called the McCall Building, now Listed, were built in 1954. They were followed later by new Buildings for the Pre-and Para-Clinical Departments, then by the construction of the Wellcome Centre for Comparative Surgery, the Wellcome Laboratories for Parasitology and the MacRoberts Laboratories for Virology. However, by the 1990s, our infrastructure needed updating and expansion and consequently a major building programme was initiated. Over the next 20 years, at a cost of over £50 million, new Equine, Farm Animal and Small Animal Facilities, and new Research Laboratories, The Institute of Comparative Medicine and the MRC Centre for Virus Research were completed etc. All were inspiring, imaginative structures, eg., The Sunday Times considered The Small Animal Hospital to be “the most advanced in Europe”.

Another advantage of Garscube was that it was only 15 minutes to the West of the main Campus, with the Medical School, the Bioscience and Engineering Departments with which major collaboration evolved over the years. In 1954, Cochno Farm Estate with its magnificent Country House, 15 minutes to the West of Garscube, was purchased and developed into a major Farm Animal Teaching and Research Centre.

THE WORLD STAGE: INTERNATIONAL INTERACTION

The Master Plan was not confined to the UK. While Glasgow is one of the World’s great Universities, the 4th oldest in the UK and the 17th oldest in the English Speaking World, the City is not a Global Crossroads. Hence from the start, Weipers and his Lieutenants encouraged interaction with the ‘Best’ irrespective of location. They were generous in their support to go Global, making available additional funds for travel eg., from Dictol Vaccine revenues etc. Consequently, their Heirs followed suit from other successful revenue-generating projects eg., VetTest 8008 (**XI.8.4 Technology and Business Ventures**).

Long lasting Research Networks grew up around the Globe, mainly in Europe, USA, Australia and in Africa. These were predominantly but not solely in Virology, Cancer, Parasitology and Epidemiology.

At the same time, The Glasgow Team had a well earned reputation for attending meetings and conferences in large numbers not only in London but in the farthest corners of the earth, further underpinning our International Reputation for *Esprit de Corps*.

Africa played a key role in our **Magic Essence**. In the 1960s, with ‘The Wind of Change’ and countries gaining their independence, Glasgow’s attention turned towards Africa. These countries were in varying states of preparedness, e.g., most had agriculture/livestock based economies, but few qualified Veterinary Surgeons. Glasgow Veterinary School, led by Ian McIntyre, funded by the Rockefeller Foundation and with the support of The University, led a large team that developed the Veterinary School in Nairobi, producing its first ever Veterinary Graduates in 1964. Consequently, this diaspora was spread to the rest of East Africa, including Uganda, Tanzania and Ethiopia, and to the West, The Gambia and Central Africa.

At the same time, Glasgow initiated a range of research programmes that were to have a continental impact. Thus, with funding from The Rockefeller Foundation, once again, Glasgow played a key role in establishing International and Regional Research and Development Centres, namely the International Laboratory for Research in Animal Diseases (ILRAD) Nairobi, and the International Trypanotolerance Centre (ITC), in The Gambia, West Africa.

The African experience had a significant influence in Glasgow’s own Teaching and Training Approach and also in our Research Strategy, with Glasgow becoming a recognised Centre of Excellence in African Trypanosomiasis in both animals and man. Hundreds of Glasgow Vet School staff have visited and worked in Africa over the last 60 years and continue to do so.

Africa has become an integral part of our Psyche.

COLLECTIVE ACHIEVEMENTS

Research

Glasgow became a Major Research and Technology Centre for Parasitology, Virology and Cancer, making momentous advances in Animal and Human Health.

Thus in the early 60’s Bill Jarrett with an array of talented colleagues confirmed that Feline Leukaemia/Lymphoma was transmissible and caused by a retrovirus, now known as feline leukaemia virus (FeLV). This stimulated a massive research effort in the role of viruses in causing Cancer in man. It also led to the discovery of the retrovirus that causes AIDs. In the 1970’s, the same team

showed that papillomaviruses were implicated in the development of cancer in cattle. A successful prototype vaccine was developed that was the forerunner of the recently introduced vaccine for cervical cancer in women.

The First and still only Vaccine against a helminth parasite ('Dictol') was developed in the 1950's by the Famous Five, Jarrett, McIntyre, Urquhart, Mulligan and Jennings. This was against the cattle lungworm *Dictyocaulus viviparus* and comprised live larvae attenuated by radiation. The consequent royalties provided long term additional funding for infrastructure and *esprit de corps* etc., In 1960 Sir Harold Himsworth, the then Secretary of the MRC, lauded it as 'one of the major medical advances of the Century'.

A similar vaccine strategy was not sufficiently effective for the other economically important parasites of cattle and sheep. However, definitive pathogenesis studies carried out on such parasites, such as *Ostertagia ostertagi*, *Fasciola hepatica*, *Haemonchus contortus*, and African trypanosomes led to accurate diagnosis and definitive clinical classification, permitting cost effective therapeutic and or prophylactic drug control in the field, on a massive scale. In addition, the confirmation and importance of genetic resistance to trypanosomiasis (Trypanotolerance) and helminthiasis was demonstrated in cattle and sheep and added an important additional control 'weapon'.

Building on our early Commercial Success with Dictol, The School extended its ties with Industry, including, Anthelmintic Drug Development, and new Diagnostic and Delivery Systems. Examples of this are Ivermectin which became one of the most successful drugs in history (John Preston); a completely new concept of Point-of-Care SMART Blood Chemical Analysers, the most successful of which was The VetTest 8008 (launched in 1989-MM and Roger Clampitt cf.), selling 50 thousand instruments by 2011 and is still in 2016 No1 in the market. Another First, and commercial success, was the invention of the ruminal bolus, designed to lie in the reticulum, and, supply dietary elements or drugs to cattle and sheep, obviating the need for daily supplementation in feed.

Academic Teaching and Training

The Glasgow Approach to teaching revolutionised veterinary education. From the start in 1949, McIntyre and Weipers established strong links with General Practitioners throughout Scotland and beyond, enabling the attraction of clinical referrals of dogs, cats and horses as well as purchase of relevant Farm animal cases to ensure that students would acquire high level of clinical skills for future

practice. Complementing this, the vision of a final year with Clinical Rotation free of lectures was implemented.

The clinical material permeated down through to the paraclinical and preclinical years. Daily post-mortem demonstrations were held. These became the stuff of legends with superb clinico-pathogenesis symbiosis between staff of different disciplines and Final, Fourth and sometimes Third year students present. Discussions could be vigorous leading in some cases to major research programmes and publications.

This approach became the blue print for many Veterinary Schools world wide.

Post-mortem room interactions also motivated student interest in research, and from 1967, undergraduates were offered summer research places. This was hugely popular, with many participants having consequently very successful careers in Academia, in Research as well as in General Practice.

Another Glasgow First was the entrepreneurial Clinical Scholars Programme introduced in 1994 for formal post-graduate clinical training. This was adopted by all the other UK Vet Schools and laid the basis of the Residency and Specialist Programmes that now dominates the Profession.

PEOPLE

Glasgow's greatest contribution to Veterinary Medicine has been our Progeny. At one time Job Advertisements in the Veterinary Record stated "only Glasgow Graduates need apply". Weipers' genius identified world class Staff. These stars spawned heirs. The consequence was innumerable eminent Academics and World Class Researchers, often one and the same, Heads and Principals of Veterinary Schools throughout the world (currently Glasgow graduates are Heads/Principals of four of the eight UK Veterinary Schools, Glasgow, Edinburgh, Liverpool and London), Directors of Research Institutes (the last 4 Directors of the Moredun have been Glasgow alumni, including the first female Director), Leaders of Commerce, Successful Entrepreneurs-Millionaires, Senior Members of International Organisations, Knights of the Realm, a President of a Country (The Gambia, West Africa), Famous Authors (James Herriot), Highly Regarded and Dearly Loved General Practitioners (Harry Pfaff).

Glasgow Graduates have been likened to Coca Cola advertisements ‘no matter where in the world you will find one’.

In 1999, Glasgow was one of the first European Veterinary Schools to be accredited by the American Veterinary Medical Association. This was reaffirmed in 2007. In 2012, Glasgow was judged the No 1 Veterinary School in the UK (Sunday Times).

CONCLUSION

What more can be said other than the last 150 years have been an Amazingly Successful Journey.

We are a FLOWER OF SCOTLAND: and We will SEE OUR LIKE AGAIN.

The Magic Essence: An Arcane Question?

2010-2012

2. DIAGNOSTICS OF THE FUTURE (Point of Care)

The Role of University of Glasgow Veterinary School in the Development of

VT8008: in-house Veterinary Biochemistry Analyser

Back in the 1970s and early 1980s there were few opportunities for veterinary surgeons to perform biochemical tests in their practices. The instruments available had been designed by technologists for technologists, were difficult to use, expensive, required complex calibration, and considerable hands-on time. Many of the reagents used were unstable and had a short shelf life. These instruments and reagents were clearly unsuitable for use in a busy practice.

Those practitioners who wished to perform blood tests were obliged to use the services of private contract laboratories, veterinary schools or the government veterinary service. This required administration, postage and delay. The loss of immediacy in acquiring the report often resulted in clients and patients having to make a further visit to the surgery and often to a delay in diagnosis and treatment. A few practitioners had friends working in hospital laboratories who would, for the promise of a pint, analyse the occasional veterinary sample on their automated analysers. The problems with this option were that sample volumes from small animals were often insufficient, reference ranges for veterinary species had not been established for the method used, and many of the tests important in humans were of less value in other species. The reaction conditions, particularly for enzyme tests, where the kinetics and other variables were optimised for human blood often led to sensitivity issues in other species.

At this time, Roger Clampitt was running a clinical biochemistry and haematology laboratory in the Toxicology Section of the Wellcome Veterinary Research Laboratories. His remit was to identify any toxic effects of potentially new veterinary pharmaceuticals. Clinical Biochemistry played a large role in this exercise. Because of the pitfalls of using tests developed for humans, a lot of research was needed on tests and methods most appropriate for other species. This applied particularly to the enzymes of intermediary metabolism. In particular, much time was devoted to establishing tissue distribution in target species and the mechanisms by which diagnostic enzymes were released into the plasma during disease or toxic episodes.

Because of Roger's acquired expertise, many local practitioners used to bring him their samples. They found the results he provided to be helpful in

confirming or rejecting a diagnosis based on clinical findings alone and, of equal importance, monitoring the effect of therapy and progress of the disease. The general feeling among the practitioners was 'wouldn't it be great to be able to do this in the surgery?' Recent advances in electronics technology and test methodology presented an irresistible opportunity to attempt to develop a point-of-care veterinary biochemistry analyser with a good chance of success.

To cut a long story short, a company, VetTest, was formed in 1986 backed by private venture funding to develop an easy-to-use, fully-automated biochemistry analyser which performed tests in parallel rather than sequentially, and was designed to be used by clinicians rather than laboratory technologists. It would provide up to 12 analytical results on the patient sample in less than 10 minutes on only 10 μ l of sample per analyte with minimal hands-on time. All the feedback received indicated that the major application would be in the small animal and to a lesser extent the equine market. This system would have the advantage in small animal practice of analyses being performed in the surgery while the clinical findings were still fresh in the mind and in many instances avoiding return visits by clients and patients or time-consuming telephone calls.

Around this time a number of point-of-care analysers were beginning to appear in the human medical market. None had the features required for success in veterinary point-of-care testing. Cost, human medical orientation, sample volume, hands-on time and complexity of process were the main difficulties. Roger had some contacts with Kodak in the UK and was aware that they had just developed a point-of-care analyser for the human market, the DT 60, which used-assay specific, multi-layered reagent-coated slides with a long shelf-life as the reagent component of the analytical process. These appeared to have potential in the veterinary market. The DT60 analyser, however, was a problem because operation required excessive manual involvement, it performed tests sequentially, was designed for technologists and occupied a large footprint. It was not ideal for veterinary practitioners.

Following an approach to Kodak, it was agreed that they would supply VetTest with reagent slides exclusively for use in a veterinary analyser, subject to them being satisfied that the performance of our system was of high quality and would not bring discredit to their medical product. Access to the Kodak dry film technology saved us the effort and expense of developing an alternative from scratch.

The first stage in developing an analytical instrument was production of a 'breadboard' in order to prove the principle. This was achieved quite quickly

and the performance was evaluated in-house by analysing control sera. Performance was good but it was essential to have an independent evaluation. The big question was where was this to be done?

As happens, not infrequently, a chance meeting can have profound consequences. Roger was walking in the local town down South one Saturday when a former Wellcome colleague, Peter Brown, a Glasgow graduate, who had just retired from his veterinary advisor position, pulled up in his car and chatted about current goings-on. When Roger mentioned the need for an evaluation site he immediately suggested Glasgow University Veterinary School (GUVS). It so happened that the Dean, Professor Sir James Armour, was an old friend from student days and Peter offered to contact him. The upshot was that Jimmy Armour introduced Roger to Max Murray, recently appointed to the Chair of Veterinary Medicine. Max was an enthusiastic supporter of the project and it was agreed that the breadboard would be developed and evaluated in his department and a report prepared for Kodak. Max agreed to fund a veterinary surgeon who would perform the initial evaluation and then oversee other aspects of evaluation of the final production engineered instrument. Max was aware that another Glasgow graduate, Chris Little, a brilliant young clinician, had just completed his PhD in Bristol. Chris was approached, took the position and made a huge contribution to the success of the project. His work included arranging correlation studies with the veterinary school laboratory analyser on multi-species patient samples, determining coefficients of variation at differing analyte concentration in target species, establishing reference ranges for all analytes and looking for interfering substances in veterinary samples which caused artefactual results. Reports were prepared and present to Kodak. Ronnie Barron in his role as head of the Biochemistry and Haematology laboratories liaised with Chris and also made huge contributions in these exercises, as did Brian Wright who was Max's right hand man in the Department of Veterinary Medicine.

We had many discussions on the best way to ensure that veterinary surgeons got the maximum value from the data that the analyser would produce. Enter George Gettinby who was Professor of Statistics at Strathclyde University, another of Max's protégés and friend. After a review of existing analyser outputs in the human medical fields it was deemed unsatisfactory to simply state that a test result was high or low on the analyser print-out. It would be of much greater value to use percentiles to indicate by *how much* the result was abnormal and how it correlated with the clinical condition of the patient. It was possible to do this since we were able to access the Vet School databases which had been kept meticulously for years. Biochemical, haematological, clinical and histopathological data were available on tens of thousands of patients. It was also deemed helpful to design a decision support system which would act as an

aide mémoire and indicate possible conditions associated with changes found in analyte concentrations ranked in order of probability and suggest further confirmatory tests. The acronym CRRED was used to describe the instrument: It was Cheap, Reliable, Rapid, Easy (to use) and provided Decision (Support).

Because the relationship between VetTest and GUVS was progressing so well and with the growth of the team it was decided to establish a VetTest Development Lab at the Veterinary School (p.187-8). Brian did a brilliant job in organising the new Facility. A technologist, June Downs, was appointed who worked with great enthusiasm in the development process. At this time, VetTest was developing all the software in the USA and as progress accelerated it became necessary to have an in-house software developer. George identified a brilliant maths and computer science postgraduate Steve Hazlewood to join the team. George said that Steve could write code faster than he could type! Steve took over all aspects of software development and his efforts contributed hugely to the success the VT8008. Once the performance of the breadboard had been demonstrated to be satisfactory by Chris Little, work on the production instrument continued apace. Our production engineering facility was in New Jersey and manufacturers (Sanyo) had been appointed in Japan. This involved considerable travel. Chris, Max and Roger visited the USA to present to Kodak on our progress. June and Roger visited Japan to test the first units coming off the production lines and one way and another it was an exceedingly busy time leading up to the product launch.

Max launched the 'VetTest 8008 The SMART Point-of-Care Clinical Biochemical Analyser with an 'intelligent' databased Decision Support System: A New Era in Clinical Biochemical Diagnosis' at The Farmers Club in London in December 1989, opposite The Houses of Parliament.

An outstanding memory of those times was the enthusiasm and unity of purpose of the whole team. Working hours were long and hard but it being Glasgow there were some wonderful social gatherings, often *impromptu*, which undoubtedly contributed to team morale although probably not always to the physical wellbeing of the participants! Jimmy Armour continued to take a keen interest in the project and he and I met for lunch regularly for an overview and to right the wrongs of the world. Max and his wife Christine hosted many memorable evenings and dinners at their home where Christine produced spectacular meals for the guests. Despite trying not to talk 'shop', many great ideas (and some not so great!) were formulated around their table. These were truly rewarding times both professionally and personally, so much so that although Roger first came to Glasgow for 2 weeks he finished up staying for 10

years! The success of the VetTest project cannot be overestimated in furthering GUVS's reputation in Research and Business Development.

One cannot help but feel that in the current tough times the UK will need more cooperation between industry and academia if we are to develop and produce high technology products that the world wants and can only buy from us.

Our team can look back with a degree of satisfaction. The VT8008 was the first in-house biochemistry analyser to achieve worldwide acceptance in small animal practice. It's fair to say that it also did much to increase the understanding of clinical biochemistry in general practice and of its value in identifying the site, degree and duration of pathological events.

The VT8008 proved to be a huge commercial success. **It was a FIRST!** Unfortunately, The University did not want to become involved, and in 1991, the technology was sold to a US Veterinary Supply Company, Idexx. By the middle of 2011 Idexx had 50,000 analysers in the field and had tested samples from 50 million patients (**Idexx web site, July 2011**). In 1989 the cost of the instruments was \$6,000. Allowing for marketing strategies and special deals we estimate that sales of instruments would top \$150 million. In 1991 average slide consumption per annum per analyser was around 2,000 at a cost of around \$1.00 per slide. Slide consumption in a single year would gross around \$100million. Even if these sums were overestimated tenfold, the VT8008 generated a lot of money. It is unfortunate that for reasons we do not quite understand we missed out to a very significant extent.

Guess we must have done something right! It is still No 1 in the Market!

The same team in 1991 became involved in the development of a series of Point-of-Care Haematology instruments with the same CRRED principles, first as Haema Test Ltd (2002), then ZynoCyte Ltd (2003), and then with HemaTek Ltd. We launched the Zynocyte VS 2000, then upgraded to the Hema Tek VS 2000, then the Hema Tek 2001 Blood Analysis System for animals, and the Hema Tek ESR Plus (ESR STAT 180) and Bilirubin Plus for Humans, as well as the remarkably supravital blood film stain (developed by Ronnie Barron). The analyser received the SMART AWARD: Small Funding Merit Award for Research and Technology in 1992 (**V., XXI:1. Awards**).

Both VetTest and HemaTek were FIRSTS initiating a new era in SMART/CRRED Point-of-Care Diagnostics. They are still in the Market Place, now with competitors, VetTest is still No 1 despite its age and still regarded as cutting edge Technology. HemaTek did well but for various reasons including University constraints *et al* was not as successful.

Written with Roger Clampitt 2011

3. OUT OF AFRICA: MY INVOLVEMENT

The University of Glasgow and Scotland have had a long Love Affair with Africa, since the days of David Livingstone who not only contributed to the exploration of this vast Continent (one fifth of The World's Land Mass), in his search for the source of the Nile, but also to our understanding of the Contagia of man and animals, in particular the Dreaded Tsetse Disease. Over the last several decades Glasgow Veterinary School has continued in this tradition in animal and human health and education.

The following tells a story in which we can take some pride and in which I was privileged to take a central role throughout my career.

Veterinary Schools in East Africa: 1963 (XI:2)

In the early 1960's, 'The Wind of Change' was sweeping across Africa and numerous independent states were emerging. A major challenge to many of these nations was that their economies, which were based largely on livestock and agriculture, were under massive threat from infectious diseases of animals and of man. Animal health was almost totally dependent on expatriates assisted by local animal health assistants, eg., in Kenya there were two local professionally qualified Veterinary Surgeons., one Ismael Murithi graduated from Edinburgh and the other Peter Nderito in the USA. In East Africa, there was a fledgling Veterinary School in Nairobi, part of The University College Nairobi within The University of East Africa.

Spurred by George Urquhart who had gone to Kenya in the late 50s to become Head of Parasitology at the East African Veterinary Research Organisation (EAVRO) at Muguga, and advised by Weipers, in 1960 McIntyre sailed to New York, with his MG midget sports car, and presented a proposal to the Rockefeller Foundation. This meeting established a relationship that was to last for over 40 years and a series of inspirational proposals. Funded by The Rockefeller, a masterplan was prepared in consultation with the University of East Africa, and in August 1963 a team from Glasgow led by Ian McIntyre and, including, Bill Jarrett, George Urquhart, Bill Martin and Families travelled to Kenya by Sea and Air. They were accompanied by several young members of staff (including myself), technical staff and secretaries, nearly 40 in the first wave.

Ian quickly integrated this team with personnel from the fledgling Vet School at the Kabete and Chiromo campuses, EAVRO at Muguga, including, the famous Walter Plowright (who developed the Rinderpest Vaccine), the Government Veterinary Laboratories at Kabete, the Wellcome Research Laboratories at Kabete and, visiting staff from Veterinary Schools in Giessen (Germany), Fort Collins (Colorado, USA) and Oslo (Norway). The plan was as follows. Some 40 Animal Health Assistants, paraveterinary Diplomates from The University of Makerere, Uganda (Kenyans, Ugandans, and Tanzanians) were selected in October 1963. These Diplomates underwent an intensive 48 week clinically led multidisciplinary course, popularly known as the 'Conversion Course', upgrading them to internationally recognised degree standards. There was an extra term for those who failed the Final Examination first time. In November 1964, the Veterinary Diplomates were presented by Ian McIntyre to the Chancellor, Jomo Kenyatta, who had become the first president of Kenya in 1963, to President Julius Nyerere of Tanzania, to the Vice-President of Uganda and to Malcolm MacDonald, the British High Commissioner. These were some of the first graduates of the University College Nairobi. Previously students had received graduate status from Universities out with Africa. These graduates subsequently came to occupy many of the most senior Veterinary Positions throughout Africa.

Concurrently, a five year curriculum was embedded into the Veterinary School. The format for this, as with the conversion course, was a clinically driven horizontal vertical integrated operation. This approach was subsequently evolved to progress the Veterinary Course in Glasgow and was later adopted throughout the UK and elsewhere. The Veterinary School became a Faculty of the University College Nairobi, in the University of East Africa, in 1965 with Ian McIntyre as founding Dean, a post he held for 3 ½ years on secondment from Glasgow.

During this time, a variety of research programmes were initiated on diseases affecting domestic animals as well as wildlife. Ground breaking studies were carried on the life cycle and kinetics of replication of the protozoan parasite, *Theileria parva*, the cause of East Coast Fever, a widespread and lethal tick-borne disease of cattle, work that was seminal to future vaccine development programmes. My activities included, a survey of animal diseases of East Africa, highlighting novel conditions such as Transmissible Venereal Tumour in dogs, Spirocercosis in dogs and cheetahs, Ephemeral Fever in cattle, Papillomas in association with vulvo-cutaneous carcinomas in cattle (both now of major importance in cancer research), and the widespread problem in Tsavo and Serengeti Wildlife Reserves of Muscular Dystrophy in Antelope, a treatable Vitamin E/ Selenium deficiency that occurs in cattle in Scotland (Jarrett *et al*,

East African Wildlife Journal, 1964; DVM Thesis, MM ‘Animal Diseases of East Africa. A Study of their Incidence and Pathology’, Glasgow 1970).

Over this period, the limited facilities at Kabete, were complimented by new state-of-the art teaching and research facilities funded by the United States Agency for International Development (USAID).

The lack of qualified Veterinary Surgeons in Kenya was also reflected by the lack of Doctors. In 1964, Ian McIntyre made contact with the University of Glasgow and the Medical School. Soon afterwards, Sir Charles Fleming, Dean of the Medical Faculty, Professor William Arthur Mackey and colleagues visited Nairobi on a ‘safari’ that resulted in the establishment of a Medical School, with a Medical Faculty opening in 1967. The initial funding was from ODA. I formed strong relationships with the Glasgow Medics and their families that lasted a lifetime: I often welcomed them at Embakasi airport (**XXI:3.1. Africa: Forbes Munro etc. Glasgow Nairobi Vet School 1963--**).

Over the next decade, more than 100 members of staff from Glasgow with their families rotated through Nairobi Veterinary School. Many of the lessons we learned during the Conversion Course days were taken back to Glasgow and unquestionably contributed to our future Academic and Research Success. The contribution of Glasgow University was officially described at the time as ‘the biggest effort so far made by a British University in African Higher Education’. Later in the decade when the East African Confederation broke up McIntyre and colleagues were involved in progressing the new Veterinary Schools at Makerere (Uganda) and Sokoine (Tanzania), and advising on the curriculum at Lusaka (Zambia) and Harare (Zimbabwe). Also, Peter Holmes and Stuart Reid have had a long active association with the Vet School in Addis Ababa (Ethiopia).

The Glasgow Team integrated well into the social and academic life of the University, as well as the various Clubs, key to the infrastructure of Kenya, eg., Kabete Club, Muguga Club, Nairobi Club and the famous Muthaiga Club (‘White Mischief’). In 1964 and 1965, McIntyre and Bill Martin participated in the famous East Africa Car rally. In 1964, they drove an MG1100, and, in 1965, an iconic Red and Black Mini Cooper S, the first in East Africa.

Research Institutes

1. International Laboratory for Research on Animal Diseases (ILRAD), Nairobi, Kenya: 1973 and Onwards (XI:5)

Seeds sown by the experience in Nairobi Vet School germinated in ‘Blue Sky’ discussions over the 1960s often along the banks of the River Kelvin at Garscube. The result was McIntyre and the Glasgow Team submitted another of their famous concept notes to the Rockefeller Foundation in 1969. This note was to have a major impact on research in Africa over the next 40 years, including, the establishment of two major research institutes. At the same time in Glasgow, a significant research commitment to tropical disease, in particular African Trypanosomiasis in both animals and man, evolved to the present time.

The philosophy of the concept note was that an international research effort was needed to tackle the major parasitic diseases of domestic livestock that were holding captive vast areas of the most productive land in Africa.

One of these Research Institutes should be based in East Africa where there was already an infrastructure of Parastatal Organisations, including the East African Veterinary Research Organisation (EAVRO) and the East African Trypanosomiasis Research Organisation (EATRO). The Institute should be staffed by world class Vets and Basic Scientists. There would be a Glasgow Philosophy of a multidisciplinary structure functioning in an interdisciplinary fashion. These researchers would have direct access to the disease in the field. At the same time, they would have the budget to involve key researchers and institutes from throughout the world. The Centre would have a Rockefeller-like Post Doctoral Programme with a long term strategy of training world class Scientists, including Africans.

Think tank meetings were held, mainly at the Rockefeller Conference Centre at the Villa Serbelloni, Bellagio, Lake Como from 1972. Another Concept Note conceived by Glasgow was favourably received at an International level. In 1973, it was agreed that an Institute called the **International Laboratory for Research on Animal Diseases (ILRAD)** should be established in Nairobi. The main objectives were to develop effective control measures/novel vaccines for livestock diseases that seriously limit world food production focusing on tsetse-transmitted African trypanosomiasis and tick-borne diseases, particularly, East Coast Fever (ECF), a virulent form of theileriosis.

ILRAD became one branch of a multi-million dollar global agricultural research centre network sponsored by the Consultative Group on International Agricultural Research (CGIAR) conceived by the Rockefeller Foundation in 1968. CGIAR headquarters are located in the World Bank, Washington DC.

It was widely expected that Ian McIntyre or Bill Jarrett would be appointed Director General. However, partly because of the large USA financial input, Elvio Sadun (an American Parasitologist) was appointed. Also, McIntyre was heavily committed to another major initiative in The Gambia (**cf. later International Trypanotolerance Centre**), West Africa, while Bill Jarrett had other irons in the fire in the Virology/Cancer field.

Sadly, Elvio Sadun died shortly after his appointment, and Professor Jim Henson, of Washington State University Veterinary College was appointed in 1974. In May 1975, John Pino of Rockefeller head-hunted me as ILRAD's first Senior Scientist. I played a central role over the next few years in the recruitment of research personnel. A magnificent and unique state-of-the art Research Institute was officially opened in April 1978 by Daniel Arap Moi, Vice President and subsequently President of Kenya. ILRAD grew up to be one of the major cutting edge Animal Disease Research Laboratories in the world, having, at one time scientists of 21 nationalities, including, several from Glasgow. While 'The Holy Grail' of a Vaccine still awaits, major advances were achieved in understanding of pathogenesis, immunology, diagnosis and genetic resistance. Also, ILRAD in collaboration with The International Livestock Centre for Africa (ILCA/ILRAD Trypanotolerance Network), The International Trypanotolerance Centre (ITC) and Glasgow, demonstrated in some of the largest Field Studies ever carried out that Drug Control and Trypanotolerant Livestock can permit significant productivity in tsetse-infested area

2. The International Trypanotolerance Centre (ITC), The Gambia. West Africa: 1973-1987 and Onwards (XI:6)

In the early 70s, as part of an ongoing research programme on African trypanosomiasis at Glasgow, our attention was drawn by the President of The Gambia, Sir Dawda Jawara, a Glasgow Graduate of 1953, to the indigenous *Bos taurus* breeds of cattle in West and Central Africa which were reputed to possess significant resistance to African trypanosomiasis (termed Trypanotolerance) and to other important endemic diseases related to ticks and helminths. The Ndama, the most common breed of this type, is believed to be derived from the Hamitic Longhorn which is thought to be first *Bos* type (*Bos taurus*) to have migrated into Africa around 5000 BC as depicted in cave paintings found in North Africa.

As part of the Glasgow African Diaspora, another Concept Note was submitted to and accepted by the Rockefeller Foundation for a Glasgow Team to assess the phenomenon. Thus in 1973, Ian McIntyre and MM led a multidisciplinary team of 6 to The Gambia, where the N'Dama, is predominant. The team was based at the Veterinary Laboratories at Abuko (Director: Wally N'Dow) and at the MRC Research Laboratories, Fajara (Director: Sir Ian MacGregor of malaria fame).

The main questions to be addressed were

1. Was the N'Dama resistant to the trypanosomiasis and if so did the resistance have a genetic basis or was it acquired?
2. Was the N'Dama, which was physically smaller than the main European breeds, less productive, as was widely believed?

The preliminary results were promising and an expanded Glasgow team revisited in March 1974, and then a resident group led by Keith Murray and Derek Clifford later in 1974. Funding was extended by the Rockefeller Foundation in 1976. This work drew attention to the genetic potential of the N'Dama and other indigenous breeds of cattle such as the West African Shorthorn, as well as to the local breeds of sheep (Djallonke) and goats (West African Dwarf), as a means of increasing production in the vast tsetse-infested humid and sub humid areas of Sub-Saharan Africa.

Thus the concept of setting up a Centre of Excellence in Africa to carry out definitive studies on Genetic Resistance evolved. Sir Dawda Jawara through Ian McIntyre with sponsorship from the Rockefeller Foundation organised a conference of eminent scientists, donor agencies and multinational institutes at the Rockefeller Conference Centre, at the Villa Serbelloni at Bellagio, Lake Como in 1981, to consider this concept (I was part of the strategy group). An Enabling Act setting up the International Trypanotolerance Centre (ITC) in The Gambia was passed by the Gambian Government in 1982. Funding was provided initially by the Gambian Government, the African Development Bank, Rockefeller Foundation, Britain (ODA/DFID), then European Community through ILRAD/ILCA (MM led this component), and later Switzerland and Belgium. Ian McIntyre was appointed first Director General in 1983. Construction of ITC at three sites throughout The Gambia, Kerr Serigne, Keneba and Bansang was completed and opened in 1987. It was one of the best 'blue prints' of a Research Field Centre in the World.

ITC helped to focus World attention on the potential of Genetic Resistance as a significant weapon for disease control. Glasgow Vet School was the catalyst and driving force. McIntyre was the first Director General and MM served as Chairman of the Programme Committee and Member of the Executive. The eminent immunologist Professor AJS Davies was the Dynamic Chairman of the ITC Council.

The ITC and The Gambia became the centre of a continental programme. There were many players. In The Gambia, in the early days there was the ebullient Dr Wally N'Dow (Director of the Veterinary Department), Bakary Sangang, the master of all trades in the Vet Department and then Dr Bakary Touray, a great gentleman and Deputy Director of ITC. ILRAD (MM) had a considerable input into the immune basis of the trait, having the luxury of working on N'Dama introduced from The Gambia to ILRAD, Kenya by Embryo Transfer. At the same time, the ILCA/ILRAD Trypanotolerance Network (covering 13 African Countries) led by the redoubtable John Trail and MM surveyed massive databases in the study of Productivity and Genetics of Trypanotolerance. As usual with Glasgow, George Gettinby (Professor of Mathematics and Statistics, University of Strathclyde) provided constant advice. The outcome, a truly international one, involving Glasgow Vet School, ILRAD, ILCA, ITC and the Rockefeller Foundation etc, was of major significance, identifying a significant alternative/additional approaches for Disease Control in tsetse-infested Africa.

Africa and Glasgow: An Everlasting Bond

Africa was and is a key part of Glasgow's Psyche and mine, and has influenced greatly our activities in teaching, in research, and in many cases our careers. From the early 1950's, Africans came to Glasgow to study for Veterinary Degrees and do so to this day. Many also attained their post-graduate degrees. On return to their home countries, some achieved great eminence, eg., Sir Dawda Jawara (Glasgow, 1953) became first President of The Republic of The Gambia (West Africa), Protus Atang (Glasgow, 1961, Cameroon) became Director General of OAU/IBAR (Organisation of African Unity/Interafrican Bureau of Animal Resources), Joseph Ndung'u became Director of the Kenya Trypanosomiasis Research Organisation (KETRI), Kenya, and is now Head of HAT and Other Neglected Diseases Programme, and Foundation for Innovative New Diagnostics (FIND), WHO, Geneva, while Eli Katunguka-Rwakishaya, became Dean of the Veterinary Faculty at Makerere University, Uganda: Joseph and Eli completed their PhDs in Glasgow in 1990 and 1992, under my joint supervision with Henry Dargie and Peter Holmes, respectively. All are Wonderful African Gentlemen and to which I would like to add some others I

have known, including, Adriel Ngogu, a Kenyan who was Director of EATRO at Tororo, Uganda, then Director of KETRI at Muguga and my comrade in arms for the 10 years we were Consultants for WHO, Geneva, Bakary Sanygang, Senior Veterinary Assistant in The Gambia Veterinary Department (his son was named after me), and Bakary Touray who played a major role in establishing ITC, and became Deputy Director General. Then there was Seif Maloo of The Kenya Veterinary Department in Mombasa who supervised The Muhaka Project, then I supervised his PhD in Glasgow (**cf XIX:4**). **All Great Gentlemen**-all generous, kind, loyal, reflective, philosophical, behaving in a slow, calm and gentle manner.

Africa had an important influence on the Glasgow's Research Strategy, often in collaboration with groups in Africa, contributing significantly to veterinary and farming practices throughout the continent. Work was mainly on tsetse-transmitted trypanosomiasis, using laboratory animal models as well as ruminants, bringing new understanding to the epidemiology, diagnosis, pathogenesis, occurrence of immunosuppression, the importance of anaemia, the nature of tissue damage, and the treatment and prevention of this devastating disease, eg., as described earlier and later, intergrated epidemiological surveillance programmes involving the Vet School, ILRAD and ILCA, allowed the introduction of sustainable trypanocidal drug management control programmes that were cost-effective both in large ranches and in small holder villages. For one such programme in Kenya, the Veterinary School (MM) was given a DTI Technology Transfer Industry Year Award with Kenya Government, ILRAD, ILCA and May and Baker Pharmaceuticals Ltd (**V: AWARDS**). In addition, Glasgow triggered world interest in genetic resistance to trypanosomiasis in domestic ruminants. At the same time, when I returned to Glasgow with George Urquhart I initiated a major programme on the existence and basis of genetic resistance to helminthiasis between and within different breeds of sheep, Scottish Blackface in Scotland and the Red Maasai in Kenya. This has blossomed in Glasgow to the present day.

Another consequence of the 'African Experience' is that Glasgow staff have been in constant demand as consultants and advisors to all of the major International Organisations involved in Animal and Human Health, eg, WHO, FAO, OAU, USAID etc. An example of our reputation was when Ian McIntyre was invited to run a 'Leadership Training Seminar' on Tsetse-Borne Trypanomiasis organized by FAO/OAU/WHO in collaboration with ILRAD, Nairobi, Kenya: 5 to 23 September, 1977. MM was appointed Course-Co-ordinator with my wife Christine as his assistant. The course lasted 3 weeks and had 69 participants (Doctors, Vets, Entomologists) from 25 African countries (Francophone, Anglophone and Portuguese). An array of eminent instructors

were involved. Nothing of this magnitude had ever been organised before or since (p.77).

Some say that the Glasgow Effort in Africa weakened progress in Glasgow. This must be balanced by the appreciation of the inspiration that Africa induced in Glasgow by our staff returning with novel ideas for teaching and in the amazing array of exotic diseases they saw (Cancers, Viral and Parasitic diseases, Genetic Resistance etc.) which resulted in major research programmes.

REFLECTIONS ON GLASGOW'S DIASPORA

Ian McIntyre was the initiator supported by many many colleagues over the years, including, Weipers, Urquhart, Armour, Jarrett, Murray, Holmes, Reid, Jennings and Kennedy etc. The Rockefeller Foundation, Dr John J. McKelvey Jr and Dr John J. Pino in particular, was the major enabler, with memorable meetings always with several Glaswegians, usually at the idyllic Villa Serbelloni, or plans hatched occasionally at The Grand Central Station Oyster Bar or The Rainbow Room, New York. Over the last 60 years, I am unaware of any country in Africa with which we were not involved.

We gave our hearts and minds to Africa, and Africa returned the compliment.

2010

4. MY ADVENTURES WITH AFRICAN TRYPANOSOMIASIS

1. Approaches to Control

Our African Experiences triggered a major involvement of Glasgow in the exotic diseases of animals and man that hold Africa captive. The field and research programme carried out from the 60's to the present time, often in collaboration with African Governments, International Organisations, and International Research Institutes, contributed significantly to livestock development, and human health throughout the continent.

Our main interest turned to tsetse-transmitted trypanosomiasis (David Livingstone's Disease or The Fatal Sleep as described in Peter Kennedy's Wonderful Book "The Fatal Sleep"), a disease that devastates animal and man in an area of Africa larger than the USA. Control options are limited. Tsetse control has proved costly, complex and rarely sustainable. A vaccine is not available or likely to be in the foreseeable future, because of the trypanosomes capacity to undergo protective antigen variation. Thus, disease control has been largely dependent on a limited number of drugs developed in the 50's and 60's and on naturally-occurring disease resistance.

In order to maximise these approaches, Glasgow adopted its well proven strategy for tackling disease control. Thus using laboratory animals in Glasgow and domestic ruminants in Africa, the main pathogenic processes were identified and characterised (XII:2.1,3,4, p.167--). This research confirmed that anaemia was the key pathogenic driving force in ruminants, that immunosuppression developed often predisposing to secondary infection, and that there was widespread tissue damage, mainly of the brain and heart, manifest particularly with the tissue invasive *Trypanosoma brucei brucei* subgroup. *Trypanosoma congolense* and *T.vivax*, the main pathogenic species found in ruminants are confined largely to the circulation.

Two key pieces of work laid the basis for our approaches to disease control. The first was measurement of anaemia, the second was detection of the parasite and measurement of its concentration in the circulation. It was found that anaemia was haemolytic in nature, the result of widespread erythrocyte phagocytosis by the expanded and active mononuclear phagocytic system. Furthermore, radioactive isotope studies confirmed that there was minimal haemodilution. Hence, an accurate estimation of the degree of anaemia could be determined by

Packed Red Cell Volume (PCV%) measurement by microhaematocrit capillary tube centrifugation. If the animals survived, the anaemia became aplastic in nature. At the same time, it was shown that any trypanosomes present in the blood are concentrated in the buffy coat zone of the microhaematocrit tube. Thus, microscopical examination of the buffy coat expressed from the same tube as used to measure PCV on to a slide, and covered with a cover slip, proved to be the most sensitive parasitological technique available for detecting trypanosomes. It also permitted speciation and semi-quantification. If storage was required, a supravital stain (Zynostain) developed by Ronnie Barron of Glasgow Vet School, obviated the need for the complexity of Giemsa staining.

This point-of-care technology played a pivotal role in trypanosomiasis surveillance and in evaluation of drug control and or genetic resistance in some of the largest livestock development programmes ever undertaken in tsetse-infested Africa. This involved the analysis of massive databases by the joint ILCA/ILRAD Trypanotolerance Network based in Nairobi. Established in 1977 by John Trail (ILCA) and MM (ILRAD), The Network had operations in 13 countries in West, Central and East Africa. As to be described, this operation confirmed the profitability of Drug Control and, for the first time, showed the Productive Potential of Trypanotolerant Livestock.

Thus, Glasgow (IMc, MM) stimulated a truly International Effort involving African Livestock Small Holders (Villagers), Privately-Owned Ranches, Government Agencies, International Agencies, Rockefeller Foundation, International Research Centres, including, ILRAD, ILCA and ITC and Pharmaceutical Companies, including May and Baker Ltd as follows:

1. Trypanocidal Drug Control

Key factors in planning a Drug Strategy included, the level of tsetse risk, mode of action of drugs available eg., diminazene aceturate (Berenil, Hoescht AG) a short acting therapeutic, while isometamidium chloride (Samorin, May and Baker Pharmaceuticals Ltd) a prophylactic and, finally, the management infrastructure.

Where the tsetse risk was low and where there was good management infrastructure, the use of Berenil treatment was most likely to be considered. However, where the risk was high the drug of choice would be Samorin with a prophylactic duration that we found could stretch to 6 months.

The following exemplify three different situations in which Glasgow, ILRAD and ILCA played a significant advisory role in some of the most extensive and comprehensive studies ever carried out in Africa using drug control (XII:4).

1.1. Kilifi Plantations, Kilifi by Mombasa, Kenya.

This Dairy Ranch was one of the biggest in Africa covering 2700 hectares and carrying 2500 animals of which 800 were breeding females. These were of two main types, 1/3 Ayrshire-2/3 Sahiwal* and 2/3 Ayrshire-1/3 Sahiwal (p.184).

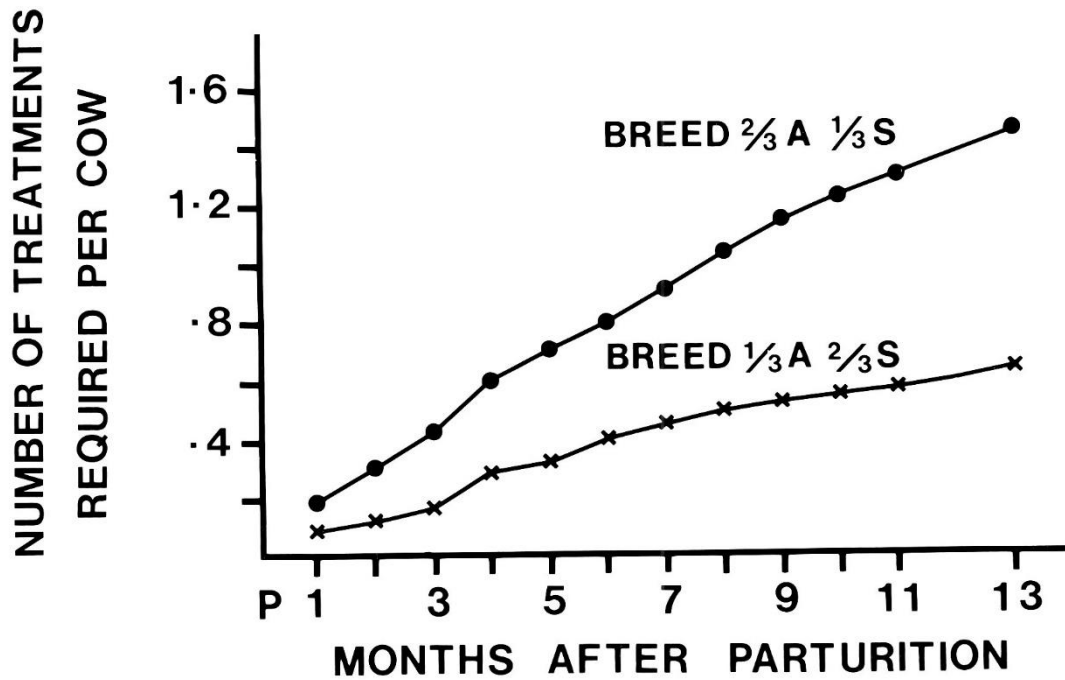
Although the tsetse risk was judged to be low, trypanosomiasis infection was a major problem leading to abortion storms that were putting The Owner out of business. Other potential anaemia problems such as tick-borne diseases and helminthiasis were strictly controlled by strategic dipping and anthelmintics. Therefore, a drop in PCV% was attributed to a trypanosome infection.

Thus, the control strategy advised and adopted used PCV estimation as the indicator of infection, and treatment with the therapeutic trypanocidal drug Berenil as follows: The entire breeding herd was bled for PCV 4 to 5 times per year; any animal with a PCV of less than 30% was treated. No systematic examination was made for trypanosomes, but when carried out *T.congolense* and *T.vivax* were occasionally found.

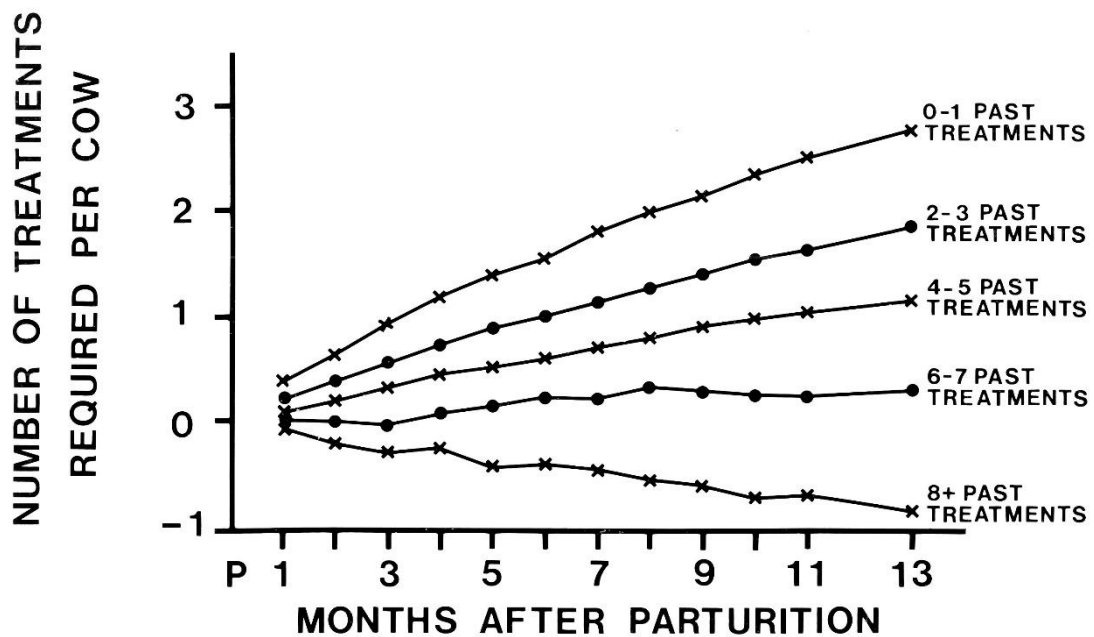
Comprehensive databases of animal health (trypanocidal drug treatments) and productivity parameters, were maintained. The control strategy recommended proved successful and profitable over a period of 20 years.

In addition, analysis of the databases between 1972 and 1978 showed evidence of both genetic resistance and of acquired resistance to trypanosomiasis. Treatment was the indication of infection. Thus, the 2/3 Sahiwal required significantly fewer treatments than the 1/3 Sahiwal (cf., graph).

* Sahiwal is a *Bos indicus* that originates from India. It has a reputation for good milk production and hardiness. The Ayrshire, once the choice breed of the West of Scotland, was selected by Dennis Wilson, the owner, because he had been a submarine Commander during World War 2, and the Clyde was his home base and the Ayrshire was the first breed he saw when he surfaced (XI:3. 1974).



Acquired resistance was demonstrated by the fact that the greater the number of previous treatments, the fewer subsequent treatments required (**cf., graph**). Also, as judged by the number of treatments the $\frac{2}{3}$ Sahiwal acquired resistance more quickly. The bottom line for the Rancher, was that the $\frac{2}{3}$ Sahiwal was less costly to maintain while being as equally productive as the $\frac{1}{3}$ Sahiwal, demonstrating that even small differences in susceptibility can affect profitability.



1.2. Mkwaja Ranch, Amboni Ltd., Arusha, Tanzania.

Mkwaja Ranch was established in 1954 with intention of supplying the labour force of Amboni Sisal Estates with meat. The Ranch was in the Pangani District on the north east coast of Tanzania. The area is heavily infested with tsetse. Massive efforts were made to control the deadly trypanosomiasis risk. Eradication/control of tsetse, including, insecticide spraying, sterile male release, defended by bush clearance/barriers, wildlife fencing, and trypanocidal drugs etc., were all deployed over many years without success.

However, in 1964, the tide turned. May and Baker introduced the chemoprophylactic drug Samorin. This was tested at Mkwaja in a range of strategies. During this time Ian McIntyre had been in close contact with Tanzania, including Mkwaja where Conversion Course graduates (JCM Jibbo) were employed. In 1973, a rigorous combined prophylactic and chemotherapeutic treatment control strategy was proposed by Glasgow and adopted as follows:

Mkwaja Ranch occupies 47250 hectares and supports some 12,000 head of grade Boran (**p.185**: East African Zebu females crossed with imported Kenya Boran bulls, then progeny upgraded by Kenya Boran semen) with an average of 4800 breeding females. The management infrastructure, most especially records kept over the next 10 years was of the highest standard. The databases maintained were unique by virtue of their volume and completeness comprising over 20,000 data per trait (1973-1982), yielding matching animal health, trypanocidal drug treatment, and composite animal productivity indices. **It must have been one of the largest Livestock Disease Databanks ever analysed.**

One month after the last Samorin treatment, 30 to 40 animals from herds consisting of 225-300 animals were blood tested for trypanosomes every one or 2 weeks, usually including animals in poor condition. When approximately 20% were positive then the entire herd were treated with Samorin. Until this point was reached, individual trypanosome positive animals were treated with Berenil, as were animals that were considered ill.

A later modification in drug regime was as follows. Two months after the last prophylaxis, as soon as routine examination showed the first positive, all animals in the herd were treated with Berenil, and then one week later with Samorin. This strategy was confounded on occasion when Berenil was not available.

Over the 10 year period an average of 4.6 treatments with Samorin per year were used. The consequence was that acceptable levels of productivity and profit were attained.

This study at Mkwaja is of particular significance in that animal performance was measured on the basis of composite production indices expressed as output per unit weight, or unit metabolic weight, of cow per year. Such a computation allows objective comparisons with other situations. Thus, it found that the productivity achieved at Mkwaja was close to that of Boran, reared in tsetse-free conditions in ranches in Kenya, considered among the best in the world, and was superior to Trypanotolerant breeds in West and Central Africa (cf., Table).

HERD PRODUCTIVITY AT MKWAJA RANCH IN THE CONTEXT OF AFRICA

<i>Productivity</i>	<i>Mkwaja Boran</i>	<i>Kenya Boran</i>	<i>Trypanotolerant Cattle</i>
Kg of weaner calf per cow per year	87.1	140.3 (-38)	58.3 (+49)
Kg of weaner calf per 100 kg of cow per year	29.8	33.9 (-12)	22.7 (+31)
Kg of weaner calf per 100 kg ^{.73} of cow per year	137.8	172.5 (-20)	101.8 (+35)

Mkwaja Ranch : 12,000 data per trait
Kenya : 16,000 data per trait
West Africa : 4,000 data per trait

1.3. Muhaka, Small Holder Location, Coast Province, Kenya

The vast majority of cattle in Sub-Saharan Africa are kept by small holders with 2 to 4 animals, sometimes mixed in a collective herd. In such situations the rigorous management described previously at Kilifi and Mkwaja is not an option. The following study was carried out at Muhaka situated 35 km south of Mombasa, Kenya. It is a village area of some 100 km² and is an area of medium tsetse risk. Some 700 East African Zebu cattle (**p.186**) in 17 village herds belonging to 31 owners (Digo and Wakambu tribes) were followed. They were

maintained on private and communal pastures. Trypanosomiasis was known to be the main disease

The Strategy adopted was as follows: Starting in 1984, two thirds of the animals were treated with the prophylactic drug Samorin in April, July and October. One third were kept as controls. The time of treatment was fixed because of lack of infrastructure to evaluate the periods of possible infection risk. Also in January of each year, the period of lowest risk, all test animals were treated with Berenil. In addition, any individual animal detected as parasitaemic or showing clinical signs was treated with Berenil.

Over the 4 year study, the increase in productivity in the test group, computed on the basis of key production parameters including lactation, was over 30%. The resultant economic benefit covered veterinary services and drug costs; a profit would still have been realised even if drug costs had doubled. The money was in the Milk.

Consequently, exotic dairy cow genes were introduced into this area by the Kenya Government. This approach was successfully extended throughout the Coast Province.

1.4. Conclusions

At the time, these results reported in the late 1970's and 1980's had major consequences in confirming the economic viability of Drug Control of Bovine African Trypanosomiasis to Livestock Owners and to the Pharmaceutical Industry e.g., May and Baker Pharmaceuticals Ltd. invested £2 million in new production facilities for Samorin.

For the Studies at Mkwaja Ranch, Tanzania, and at Muhaka Village area, Coast Province, Kenya, Glasgow University Veterinary School in partnership with May and Baker Pharmaceuticals Ltd, the International Livestock Centre for Africa (ILCA), The International Laboratory for Research on Animal Diseases (ILRAD) and the Ministry of Agriculture and Livestock Development of Kenya were given a Meritorious Award in the Technology Transfer Section of the Industry Year Award in 1986 for the successful implementation of Animal Health Packages for Parasitic Diseases in Developing Countries (**V; Archives XX1:1**).



1986 Industry Year Award: Ernest Crouch (M&B), Ian Lang (Conservative Cabinet Minister-Department of Trade and Industry), and Me

This work showed that appropriate drug strategies were highly cost effective over many years in both ranch and village management operations, even in the face of heavy tsetse challenge.

However, the long term consequences are uncertain in that no new drugs have appeared on the market, largely because trypanocides are not seen as a profitable product by the Pharmaceutical Industry. At the same time, drug resistance is an ever increasing problem.

2. Genetic Resistance/Trypanotolerance

This proved to be another string to Glasgow's Bow.

2.1. West and Central Africa

As described above in 'Out of Africa' (**XIX:3.1**), and in **Chapters XI XII** Glasgow Veterinary School played a pivotal stimulating role in what became a major international effort with ITC, ILRAD, ILCA, EC, DFID and the Rockefeller Foundation etc., in establishing that the Genetic Resistance trait was a significant additional/alternative strategy for the control of African trypanosomiasis (**XII:3.1 p.177-**). It was shown that:

1. Trypanotolerance is a powerful genetic trait best exhibited by the N'Dama, characterised by the ability to resist anaemia and control parasitaemia, as

measured by the simple point-of-care field technologies. Both traits are repeatable, genetically controlled and heritable, and positively correlated to productivity, as computed using all major production traits. Furthermore, resistance can be enhanced by previous exposure and by dietary supplementation.

2. The N'Dama is as productive as other breeds in areas of zero or low tsetse risk (**XII:4 p.156**), while in areas of higher risk it is the only breed that can survive without drugs. This was confirmed in massive database studies of health and productivity, covering 13 countries in the ILCA/ILRAD Trypanotolerance Network (John Trail/MM).

3. Other attributes, based on field observations, that N'Dama and West African Shorthorn would appear to possess and that allow them to survive and be productive in humid and subhumid regions, are almost akin to wildlife. These include, resistance to other endemic diseases, including, tick-borne diseases, dermatophilosis (a massive problem) and helminthiasis. There is also evidence of greater heat tolerance, water conservation, and ability to scavenge.

Trypanotolerant breeds, mainly N'Dama, are now a major if not the only option for sustainable livestock development in 19 of the 40 countries in tsetse - infested areas of West and Central Africa. In 11 of these countries, as a consequence of the foregoing work, cattle have been imported or moved into the highest risk areas (**p.181-183**). Embryo transfer was used for the first time to introduce N'Dama into Kenya, East Africa, from The Gambia, West Africa by ILRAD by a Team led by MM (**p.179, 180**).

2.2. East Africa

There have been several reports from East Africa of reduced susceptibility to trypanosomiasis in various *Bos Indicus* types as well as indigenous sheep and goats. At the same time, imported *Bos Taurus* breeds such as Ayrshire/ Friesian have proved disasterously susceptible. Thus:

As previously described, following evaluation of a large database, 2/3 Sahiwal-1/3 Ayrshire were more resistant than 1/3 Sahiwal-2/3 Ayrshire to trypanosomiasis, as judged by requirement of fewer treatments. This was of economic benefit to the Rancher, as both cattle types were equally productive.

Several studies carried out by Glasgow (MM) in collaboration with Kenya Trypanosomiasis Research Institute KETRI, Adriel Njogu, Joseph Ndungu,

Joseph Monirei showed differences in susceptibility in various *Bos indicus* types following field exposure and experimental infection. The main study was carried by Eric Mwangi at Olkirimatian Maasai Ranch, by Nguruman Plateau, Kenya (cf., p.144) where under a heavy tsetse challenge, Maasai Zebu and Orma Boran (originally from Somalia) proved to be more resistant than Galana Boran (Kenya).

2.3. Conclusions

Glasgow played a catalytic role in highlighting the importance of Trypanotolerance as a major strategy for the control of African Trypanosomiasis in domestic livestock. Thus in some tsetse-infested regions trypanotolerant breeds can survive and be productive where other breeds succumb, while in other breeds, differences in susceptibility can be profitable because of fewer requirements for treatment.

2. Human African Trypanosomiasis (XII.2.1 Research Highlights)



Trypanosoma rhodesiense in Man

Another contribution made by Glasgow of major significance was the Mouse Model for Human African Trypanosomiasis (HAT Sleeping Sickness) developed by Frank Jennings (Hume Adams and MM-pathology), and later refined by Peter Kennedy and Jean Rodgers. This Model, employing *Trypanosoma brucei brucei*, is recognised world wide as the Gold Standard mimicking extremely well the neuropathology of the human brain disease and has led to understanding of key underlying mechanisms. It has also been used to develop new approaches to treatment, including, combination chemotherapy. In a breakthrough of massive

potential, Peter Kennedy and his team, including Jean Rodgers and MM, have produced a complexed melarsoprol that can be given orally, is non toxic and is curative. Plans are now underway for staging Human Trials in Uganda. If successful, it would be a Major First effective drug for HAT. At present, all patients die if not treated, while with current drug treatment (an intravenous arsenical) 10% die due to the side-effects of the drug.

GENERAL CONCLUSIONS

Glasgow's Adventure has been Visionary in helping to stimulate an International Task Force to tackle THE DREADED TRYPANOSOME

Too often Animal Health Control Studies involve only the measurement of Viability, and Growth. What is needed is the Glasgow Approach (Jimmy Armour, George Urquart, Ian McIntyre, George Gettinby and Max Murray etc.) when Reflecting on Parasitology. Thus for African Trypanosomiasis, epidemiological field studies involving parallel monitoring and computation of key health and productivity traits, were underpinned by experimental investigations of the pathogenesis in laboratory animals and in the finite host, that provided the key diagnostic markers of the disease process, namely, anaemia and parasitaemia. As consequence, the sustainability of both Drug Control and Genetic Resistance was confirmed and can be considered as Viable Strategies.

In addition, I believe that Peter Kennedy and his team have produced the first safe and effective drug for Human African Trypanosomiasis and hope that THE POWERS THAT BE SUPPORT HIM.

PUBLICATIONS: ?????? I can guesstimate over 300 articles, book chapters, reviews plus Peter Kennedy/ Andy Tait/Peter Holmes

FUNDING: >£ 30 Million?, including, Wellcome Trust, MRC, Rockefeller Foundation, USAID, CGIAR, WHO, Gates, European Union, ODA/DFID, Sir Jules Thorn, May and Baker Ltd.

THE TEAM: Ian McIntyre, George Urquhart, Frank Jennings, Peter Holmes, Jim Dargie, Ronnie Barron, Ian MacLean, Keith Murray, Derrick Clifford, Alistair Greig, Maggie Wallace, Christine Murray, Douglas Whitelaw, Andrew Peregrine, Jean Rodgers, Barbara Bradley, Margarit Knopfel, Heidi Gerber

(Geneva University-WHO another story), Jim Dargie (Glasgow/IAEA), MM (Glasgow, ILRAD) and now Peter Kennedy (Glasgow).

Strathclyde University: George Gettinby

ILRAD: Jim Henson, Ivan Morrison, Sam Black, Hiro Hirumi

ILCA: John Trail, NM Wisscoq, GDM d'Iteren

The Gambia: President Sir Dawda Jawara, Bakary Sanyang, Bakary Touray, Wally N'Dow, Joseph Faye.

Kenya: Adriel Njogu, Joseph Ndung'u, Seif Maloo, Eric Mwangi, Dennis Wilson (Kilifi Plantations)

Uganda: Eli Katunguka-Rwakishaya

Tanzania: JCM Jibbo, Emil Blaser (Mkwaja Ranch)

Sudan: AA Ismael

Rockefeller Foundation: John J. McKelvey, John, J. Pino

FAO: Pierre Finelle, Jan LeRoux

WHO: Peter De Raadt, David Molineux

Portugal: Jorge Atougia

May Baker Ltd: James McAinsh (Managing Director), David Niven (Financial Adviser), Ernest Crouch, Keith Sones

San Diego Medical Centre (University of South California) Charles Davis

5. THE GAMBIA HORSE and DONKEY TRUST (GHDT XV.4)

Horse and Donkey Power Provide Education, Health and Hope

Sixty percent of the population in Sub-Saharan Africa, an area considerably larger than the USA, live in extreme poverty. The majority at risk are in rural areas and depend on small-scale farming for subsistence: 65% of their income comes from farming. Catastrophically, this is the only region of the world where per capita food production worsens every year.

From my experience in Africa, I believe that the only approach to alleviating this catastrophe is a long term bottom up one, with the concept of helping people to help themselves. Clearly we face a massively complex problem where we must try to identify the key factors in a stepwise strategy to achieve a sustainable outcome.

Education, Health and Hope are my essential building bricks. The first step must be to stimulate economic growth. Our priority must be to reverse the downward trend in agricultural production, the cornerstone of the present economy. To do so I would propose that a key consideration in the agricultural equation in the Sub-Sahara is 'Manpower'. Currently, 80% of agricultural power is manual, with women and children playing a major role, 15% is provided by livestock, and only 5% is mechanised. Hence, the most likely approach to obtain an immediate and a sustainable impact would be to increase agricultural power.

Mechanisation is not a major option for the foreseeable future. Consequently, my approach has been to encourage an increase in the effective utilisation of livestock. It is well established that the provision of a family oxen can increase production by as much as 6 fold. However, oxen can be expensive both to purchase and maintain. Where available, equids (horses, donkeys and mules) offer an attractive alternative/additional option. Unfortunately, both cattle and even more so equids are susceptible to killer tsetse-borne trypanosomiasis that holds captive an area of Sub-Saharan Africa larger than the USA and hence in many regions these species are sparse and cannot be maintained.

The story of how I really became "hands on" again began in 2002 in an upcountry part of The Gambia, West Africa. The Gambia Horse and Donkey Trust (GHDT) (www.gambiahorseanddonkey.org.uk) was launched by two remarkable ladies, Stella Brewer (Marsden) and Heather Brewer (Armstrong) who have a lifetime's experience of The Gambia, its people and animals. I was

honoured to be asked to become a trustee. I first met them in The Gambia in 1973 during The McIntyre Adventure (XI:3). Stella had already established an internationally renowned Chimpanzee Conservation Trust, dedicated to wildlife conservation. Stella and Heather realised that success could only be achieved and sustained through the people and their local community.

They had observed over the 1990s, a significant increase in the numbers of donkeys and horses as consequence of a dramatic reduction in the tsetse risk due to ecological changes. This presented a unique opportunity for agriculture development for the following reasons: equids are particularly suitable for the small 1 to 4 hectare farms that dominate The Gambia, as well as other vast areas of the continent. They are preferred to oxen for ploughing, traction and transport as they are much cheaper, easier to maintain and manage, do not require roads, can be ridden, and also provide manure.

One important constraint however, is that in the areas in which their population had expanded, often care and management is very poor. In The Gambia, we found that this was a consequence of the carer's lack of knowledge, often appearing as cruelty rather than ignorance.

Thus, the first phase was to improve the health and well-being of the growing equid population in the region. At the same, they realised that several components were essential for the key building bricks: Health, Education and Hope/Inspiration. The following steps were initiated:

1. A primary health care programme for equids. This was designed by Heather and Stella and local personnel, and backed up by input from several British, European and USA Veterinary Surgeons with Glasgow playing a leading role. This was delivered both in the local schools and through the local community.

The animals were provided to Family Units as required.

2. A Primary Human Health Centre with a qualified nurse.

3. Improvement of School Infrastructure, involving curriculum, teacher training, upgrade of buildings and a library. Included in the lessons were the basics of primary animal health care, primary human health care and animal conservation.

4. Upgrading of Local Community infrastructure: Provision of solar power, Computers, Internet (there is no mains electricity in these regions), road improvement for access to school/markets (**Calum's Road p.291, 596**)

5. Provision of Inspiration, Motivation, Competition and Hope

Sport: Football, played by both boys and girls. Through MM Strips donated by Manchester United (provided by Sir Alex Ferguson), Rangers, Celtic, and Hearts. Referee strips given by Scottish Football Association. Donkeys and Horses named after Famous Footballers: Beckham, Messi, Coisty etc., Donkey Football (**p.290**).

Agricultural shows – competitions eg., best looking donkey and several other categories etc., etc.

Remarkable progress has been achieved over the last decade. This has been confirmed by the local people and several experienced international observers. For example:

1. A marked improvement in the well-being of over 600 equids locally, now extended to 10s of thousands of animals throughout The Gambia.
2. Equids have been adopted into the infrastructure of the community and are now widely used (failure in care has been rare).
3. There has been a guesstimated 5 fold increase in food and in cash crop production.
4. Family income has shown an 8 fold increase (guesstimated).
5. Drudgery of field work reduced for women and children.
6. Four fold increase in school attendance: Time and money now available for children to attend school (uniforms and school fees).
7. Skills Centre established for women (built by Glasgow Vet Students): manufacture of tie-dye material, dressmaking, school uniforms, Gambian jewellery for export.
8. Development of Small Business Enterprises -
Transport, Animal hire, Farriers, Harness Makers
Market Garden – Vegetables for tourists.
Increase in number and activity of local markets.
9. Currently we have funded the training of Vets and of Para Vets who graduated from The Gambia College (a parastatal Agricultural College).

10. Calum's Road was built (XV:4 p.291)

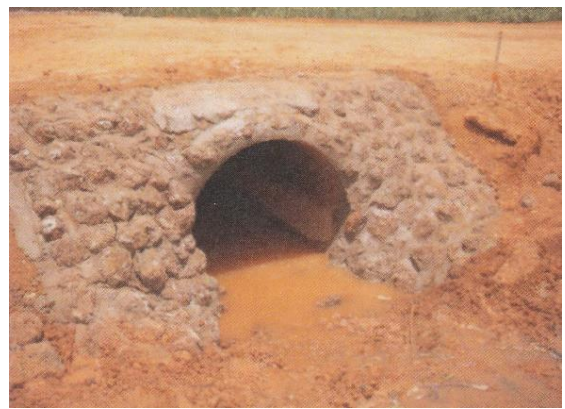
Calum's Road in The Gambia
"A Dream from the Isle of Raasay"

"Reflecting on the amazing safari and contribution of the Highland Bikers to Calum's Road in The Gambia, we realised that it is nearly 2 years since the seeds of inspiration were sown by MM via Ron MacKay, a man from Kingsburgh in the Isle of Skye just across the water from Raasay. Kingsburgh is the village on Peter and Katie Martin's land to which Flora MacDonald took Bonnie Prince Charlie 'Over the sea to Skye' and where she stayed for a while after her marriage.

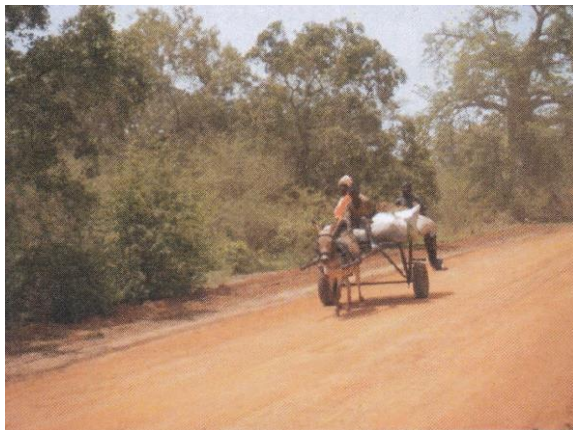
Ron sent us a book telling the tale of Calum MacLeod who, single handedly, against all odds, built with a pick, shovel and wheel barrow, his road on Raasay. As you know it was called Calum's Road. It was built through rough hilly terrain, it was nearly 2 miles long and took him 15 years. Ron, Calum MacLeod, and Heather and Stella have several characteristics in common, including, unbreakable determination and vision. We would like to acknowledge Ron's contribution to the concept of Calum's Road in The Gambia and for helping Heather and Stella to further fulfil their Dreams for The Gambian people(HA,MM)."



2008



2010 Calum's Road



Patrick Pollock
Piping in
The Opening





2008 BBC Calum's
Road.m4a

11. Also, a “new” CNS Clinical Manifestation in trypanosomiasis has been identified in the equid population by the Glasgow Vets.

I believe that this Initiative is relevant not only to The Gambia and but to many parts of Sub-Saharan Africa. It has been shown that in a short space of time with minimum monetary investment but with the help of visionary people with enthusiasm and considerable African experience it is possible to reverse current trends and start to move forward with

Hope for a better life through Education and Health

Our project depends totally on helping people to help themselves. I think that the GHDT Web Site gives an excellent account of our progress.

THE FUTURE ?

1. Consolidation and financial independence
2. Agricultural diversification
3. Small business development
4. Skills training for school leavers
5. Embrace ICT
6. Extension of blue print to other regions of The Gambia and Sub-Saharan Africa

A problematic area is building Self reliance and reducing Dependency of the Local Population on The Charity when something goes wrong. This is a Challenge we are constantly working to resolve.

Max Murray (2010)

6. “The Illustrious Saga of the Adventure Awful, and Victory Valorous of Maxwell the Magnificante”

This is the saga of Maxwell the Knight,
A man of great courage, supporter of right,
Well-armoured in silver and mounted fair well,
On a dashing white charger he called Tinkerbell.

He lived in a castle just inside Bearsden,
With some pretty damsels and many brave men,
And from this great stronghold which served as his home
He fought every day with the dread trypanosome.

The battle was hard and the enemy strong,
But our hero continued his fight against wrong,
Well-aided in war by his staunch allies true,
Sir Norrie, Sir Peter, Sir Bernard and Hugh.

This list must include that distiller of magic,
Omitting whose name would be no less than tragic,
He lived in the castle high in a garrett,
And was known to the world as old Wizard Jarrett.

This battle had lasted for many a day,
And still no brave knight had as yet found a way,
To vanquish the foe, though many had tried,
The trypanosome flourished and people still died.

Early one morning our hero arose,
And he said to himself “Surely somebody knows
Our enemy’s secret of unending life,
If only I knew I’d soon end this strife”.

He called for his charger, his staunch Tinkerbelle,
And bade his retainers a touching farewell,
“I’ll return when my struggle is over”. He vowed,
As he galloped away from the large, tearful crowd.

He wandered the kingdom, he searched everywhere
Yet never discovered the trypanosome’s lair,
Until one fine day when he found himself lost,
In a part of the country he never had crossed.

Through the woods and through meadows our brave Maxwell rode.
And then in the distance a regal abode,
A castle, with towers, he happened to spy,
So he galloped towards it “a gleam in his eye”.

He knocked on the door but no-one replied,
So he pulled the catch open and walked straight inside,
The castle was empty – no sound touched the air,
Exploring the courtyard, our knight found a stair.

He wended his way to the battlements high,
And right at the top a small door caught his eye,
He gritted his teeth, turned the key in the lock,
And then gazed ahead quite transfixed by the shock.

Amongst all the dust and the cobwebs and gore,
On a 4-poster bed in the midst of the floor,
Lay a damsel so fair, that the knight quite amazed,
Stepping into the room, on her countenance gazed.

Commanded by forces outside his control,
Our knight quite abandoned his chivalrous role,
He stopped and he kissed the lady’s fair face, and
was then overcome with a sense of disgrace.

As if from a spell the sweet damsel awoke,
In soft dulcet tones she immediately spoke:
“You have saved me good knight from a terrible fate,
On your slightest whim or command I await”.

Our Maxwell being honest and trusty and good,
Did not then request what he normally would,
Instead he just asked of her “Where is the home
Of my foe and my quarry the dread trypanosome?”

The lady she smiled as she said, “Dear sir knight,
I can aid your success in your terrible plight,
For the monster attacked us just 6 months ago,
Come now with me, to its lair we will go”.

Out of the castle and into the wood,
The young couple travelled and finally stood,
In front of a cave-mouth, pitch black inside,
“Come out and fight”, our brave hero cried.

With groaning and rumbles the great beast emerged,
And on the young couple the monster converged
With a 10 foot syringe our brave hero advanced
And in front of the trypanosome feinted and pranced.

The battle was hard and the monster was strong,
But Maxwell had right and the trypanosome wrong,
As the evening drew near and the monster grew weak,
It finally dropped to the ground in defeat.

The needle sank deep in the green slimy skin,
As our hero injected the dread insulin,
The monster it heaved and it sighed – gave a groan,
And finally died with a heart-rending moan.

The battle was over and back to Bearsden,
Sir Maxwell then rode to inform his brave men,
“Your fear is now ended, and you are all free,
From the dread trypanosome, and it’s all thanks to me”.

The people all shouted and crying with joy,
Said “Good Sir Knight, to reward this brave ploy,
We will make you our king, we are at your command,
We’ll obey your each wish and your every demand.

They crowned him their king and there at his side,
Sat the beautiful damsel – his choice as a bride,
This story is finished – but just by the way,
For ever and longer all lived happily.

SHEENA MacBRAYNE 1972

7. THE FAMILY

7.1. Mum's Funeral Oration

Last Saturday several of us here today attended the Funeral of a young colleague from the Vet School – Colin Naismith – a truly **TRAGIC** event.

While this morning is a **VERY SAD OCCASION**, we do not regard it as **TRAGIC**, we regard it more as a **CELEBRATION** of a **REMARKABLE** lady.

It is a **CELEBRATION** of a great love story, of Mattie and Max Murray.

Mattie and Max had **TWO OBSESSIONS**

1. was their **FAMILY**
2. was **EDUCATION**, or in modern parlance should I say

EDUCATION, EDUCATION and EDUCATION

Theirs was a **HOLISTIC CONCEPT OF EDUCATION** that encompassed learning, literature, music, dancing, sports, sportsmanship, religion and politics.

They both had a **DREAM**, that The Family should all experience this **CONCEPT** and they both devoted their lives **SELFLESSLY** to this end.

On Friday 13 April 2001, almost 20 years to the day since our Father died, **MATTIE**, our Mum, Our Mama, our Grandma and our Great Grandma was at **PEACE**, and **PROUD** in the knowledge that her **DREAM**, and that of the man she loved, had been fulfilled.

Thank you.

MAX MURRAY

21 April 2001

7.2. KATIE'S JOURNEY

24th July 2009

Katie marries Peter Martin

This is one of the greatest days in our Lives for Christine and I. However, I am not going to make a speech but I am going to tell you a Story of a Journey (**XXI: DVD Box File 5.7.2: KATIE'S JOURNEY-A MOVIE*:** S-Still, V-Video).

*When viewing the DVD, use the pause button to hold stills, if required.

1.S. Katie's Journey – and of course we'll let Katie have the first word.

2.V. I am the Hero!

3.V. The Hero arrived in Nairobi on 12th January 1978. She was a beautiful hero just like her mother.

4.S. She was soon introduced to her Grandparents:

My Mum and Dad – Mattie and Max – a great love story.

Appropriately, we are at Kilaguni Lodge in Tsavo National Park, one of the best bars in Africa.

5.S. Christine's parents: Elsa, the beauty from Slovenia.

Ron, a quite amazing man – what a CV!

and Uncle Mick, a truly iconic figure.

6.V. Katie was a star from the start, as Aunt Evelyn quickly pointed out: note how she was focused and fearless as she races past Humphrey – a Rhodesian Ridgeback (the breed used to hunt lions).

7.S. By 1979, there were two at the Equator.

8.S. Max had arrived.

9.S. Then there were three at Lake Baringo, Kirsty arrived.

- 10.S.** Here is our family at home on Loresho Ridge, Kabete in the early 1980's. Max, Kirsty and Katie (note the dog Sand'or - some friends, the Morrisons, were going on leave and asked us to look after the dog. They never asked for him back; he was ugly but he was smart.
- 11.S.** And we had many other friends. This horse is still with us.
- 12.S.** Snoopy: he looked after Christine.
- 13.S.** Sheba, The Queen, a beautiful great Dane (who followed Humphrey). I think he decided to chase lions. Katie used Sheba as a horse.
- 14.S.** Uncle George – a very rare Rothschild Giraffe who absolutely adored Katie.
- 15.S.** Katie soon became a follower of fashion: Aunt Sandra sent her the hat.
- 16.S.** In her Italian bathing costume.
- 17.S.** A beautiful Kenya blonde.
- 18.S.** Kenya is an amazingly beautiful country.
One magical view is Kilimanjaro which is in Tanzania but can be seen from many areas of Kenya if you look S/SW. It could be seen from Katie's school and I could see it from my lab.
- 19.S.** The range of wildlife was incredible. Here we have the elephants at Mzima Springs in the Tsavo (we are still associated with them).
- 20.V.** Safaris: there were many. This was to Lake Navaisha, one of the great lakes in the Rift Valley that runs through Kenya.
Max as always is escorting the girls. I should point out that hippos wander about the shore. It has been known for children wandering behind boats to disappear?
- 21.S.** Mombasa with another animal friend.

- 22.V.** Max digging to Australia looking for Bec at Msambweni, south of Mombasa. Iddly and Pinky “Parleyvooring” along the beach.
- 23.S.** Katie, and the other two, attended Kabete Kindergarten School. It was idyllic. On a good day, which was nearly every day, if you looked north from the school you could see Mount Kenya, and if you looked South you could see Kilimanjaro.
- 24.S.** In 1985, I was honoured to be offered a job in Glasgow.

We arrived back on Monday 1st July 1985.

We were met at the airport by a beautiful silver grey Volvo Estate car, tied up in a white ribbon, and Harry Lauder singing: “I belong to Glasgow” when I switched on the ignition, all organised by Aunt Lesley.

- 25.S.** All three – Katie, Max, Kirsty – attended the High School of Glasgow (one of Scotland’s great schools founded in the 11th Century).
- 26.S.** Christine found a great house with a great garden close to the school in Ledcameroch Road where we all continued to grow up.
Katie was an enthusiastic gardener.
- 27.V.** Katie’s cucumber.
- 28.V.** Katie’s trimming the lawn: Our beautiful girl.
- We had numerous parties.
- 29.V.** Granny’s birthday party.
- 30.V.** Lots of entertainment. Christmas time- Cliffie and Ritchie.
- 31.S.** Sport. Snow played a bigger part than in Kenya.
- 32.V.** Katie sledging at Ledcameroch.

33.V. Skiing at the Cairngorms plus Max.

34.V. Katie was an outstanding gymnast at school.

35.S Katie was a major traveller: over 70,000 miles with BA before 1985.

Algarve and Majorca – Porto Pollensa were popular during this period.

36.V. Swimming at Porto Pollensa: Trying to rescue Christine?

37.S Zero Talent. Some of the best shows I have ever seen:
Acapulci and colleagues.

38.V Acapulci

39.S. Numerous visits to Highlands, mainly Cairngorms (in Spring, Summer, Autumn, Winter)

40.V. The best were Chalets close to the Spey.
Note Mr Atlas (Max).

41.S. Of course visits to Africa, mainly Kenya.
The Three Musketeers on Mombasa Beach.

42.S. Dedicated fashionista – cocktail bar on Mombasa Beach.

43.S. Fur coat at Ledcameroch

44.S. Katie has always had a passion for cars.
Sharpened her skills at Aviemore in the Cairngorms

45.V. At the Dodgems.

46.V. In the Go-Karts.
Katie in yellow, Max in red – ‘give us a wave’.

- 47.V.** And later at Knockhill in Fife – ‘give us a wave’
- 48.S.** Suddenly it was 6th Year at school.
Katie and Elaine, one of today’s beautiful bridesmaids.
- 49.S.** 1999: Graduation from University of Glasgow and Peter Martin was there.
Followed by Gap Year much spent in Skye.
Completed her Diploma in Teaching at Strathclyde University and worked in schools in Dunbartonshire but she was soon off to Skye to Dunvegan Primary School followed by Portee where she and Peter have a lovely little house just off the Square
- 50.S.** She was now under the caring eyes of the Martins of Glenhinisdal.
- Le Matron Margaret with Aunt Mary – I don’t think this is Glenhinisdal, more like New York.
 - Peter the Great Senior and Peter the Great Junior.
- 51.S.** The beautiful bridesmaid Elisabeth with her partner, the charismatic Angie.
The best man, my friend Ian with his beautiful South African girlfriend Esthi.
What a view of Cape Town from Table Mountain.
- 52.S.** Katie continued her worldwide travels.
Dominated by trips to Australia and New Zealand: Bec and Max were there.
- 53.S.** The iconic Sydney Harbour. Point out the Bridge and Opera House.
- 54.S.** The flying sisters: Katie and Kirsty on Hamilton Island on the Great Barrier Reef
- 55.S.** Peter, Katie, Bec and Max. Ice cold in an ice bar in Sydney
- 57.S.** USA was popular again with Bec and Max: Katie horizontal

in Manhattan: point out Bec, Max, Kirsty and Tom (a great guy), Kirsty's boyfriend. 25 storeys: note the Empire State Building and Chrysler Building.

58.S. Katie – Broadway – Mamma Mia.

59.S. The girls look happy outside the Rockefeller Centre. I found out later that they had just raided Tiffanys.

60.S. Peter and Katie on Top of the World: The Rockefeller Centre
Looking North there is the Empire State Building, East River on the right, Hudson River on left.

61.S. A great reunion in the Cairngorns. The gang at Loch Morlich – all 8 of us

62.S. I must mention the other two members of our growing family – Kiwi and Mickey.

Kiwi is Grandpa Ron's dog who came some 8 years ago: what a girl!

Mickey is Kirsty and Tom's Jack Russell: what a guy!

63.V. The parties continued:

Cranium – Tom and Bec

64.V. Feeding Katie

65.V. So we'll let Katie have the penultimate word-----

The Hero – Goodbye

66.S. The best slide of all. End of the first part of the Journey.

The Beautiful Blonde from Kenya.

The Highland Gentleman from the Isle of Skye.

Portree 2009. New Year. What a great picture.

Now Ladies and Gentleman, Christine, Margaret and Peter (senior) and I would like to thank you for coming from the four corners of the world to this beautiful Hotel at Skeabost, to the mystical magical Isle of Skye to our great country of Scotland to celebrate Katie and Peter's wedding. I would now like you to be upstanding to toast Katie and Peter and wish them a happy life and a good life. Slanji va Slanji vor: Good health – great health.

Max Murray 24th July 2009

7.3. KIRSTY & TOM'S WEDDING 2012

“Simply The Best”
A MUSICAL: KIRSTY and TOM

26 SEPTEMBER 2012 (XXI:DVD Box File 5.7.2)

This is one of the greatest days of my life. I am proud, honoured and delighted to be standing here in this magnificent “Tithe Barn”, or should I say “Cathedral”, to speak on behalf of Christine and our Family to celebrate the marriage of Kirsty and Tom, two wonderful and remarkable people. They are Simply the Best.

“Simply The Best”

I would like to tell you about Kirsty and her several ages of growing up :

1. The First Age of Kirsty was in East Africa.

- She was born on 24th January 1983 in Nairobi in Kenya, where Max and Katie were also delivered.
- She was a mighty baby as well as a beautiful blonde.
- However, when she arrived home there were some doubts. Max gave her a loving cuddle and then told Christine to take her back to the shop.
- Her character evolved rapidly.
- She loved socialising. Thus, the Sunday before she was born she had lunch at the Kentmere Country Club – Nairobi’s answer to The Ivy.
- On the Sunday after she was born, she lunched at the Carnivore, Nairobi’s answer to Simpson’s on The Strand. And several months later she could be seen devouring a gigantic prawn at the Tamarind Restaurant in Mombasa.

- From the start she proved an astute judge of character. For this, she developed a highly sensitive POC diagnostic technique – testing the texture of the human ear **lobe** by feel, or by sucking or in the last resort by a quick bite.
- She was also very philosophical: Her first words as with Katie & Max were not in English but Swahili. Her favourite saying was “Hakuna Matata” - No problem, Don’t worry

“Hakuna Matata”

- Her love of animals quickly became obvious. A lasting memory is Kirsty, still a babe, sitting astride Sheba, our majestic brindled Great Dane.
- She was a familiar sight at Nairobi’s Wild Animal Orphanage in her favourite Safari Outfit of Tee Shirt, Kilt and Red Paddington Bear Wellies, pulling the trunks of Daphne Sheldrick’s Baby Elephants.

2. The Second Age of Kirsty started on our return to Glasgow from East Africa in 1985.

- This was the age of growing up and the High School of Glasgow, a school founded in the 11th Century and one that has produced two British Prime Ministers: Campbell Bannerman and Bonar Law.
- Progressive Kirsty matured into a caring, giving, fun loving, but determined **Perfectionist** as she has always remained.
- She is also an **Optimist** and always thinks the best of situations. If Kirsty was given a bag of horse dung by Santa Claus, you would find her up to her arms in shit saying “Daddy I think Santa brought me a horse but I cannot find it”.
- Kirsty has a great love of all animals. Her first love was “Arran”, a Police Horse she met at the Vet School, and under the guidance of Rosemary Brown and David Ralston, at their Auchineden and Easterton Stables, unfortunately they cannot be here today, Kirsty became an accomplished horse woman.

Santa Claus really did eventually bring Kirsty a horse, “Shuni”, a 4 year old Clydesdale/Thoroughbred that came to dominate all of our lives. Kirsty & Christine virtually moved house to Easterton Stables for the next several years

Unfortunately, Shuni did not possess certain key talents associated with horses such as jumping and Kirsty often found herself lying up to her arms pits in Shuni’s Dung.

Nevertheless, we all loved Shuni and she became our “Four Legged Friend”.

“Four Legged Friend “

Shuni eventually retired to a luxurious farm in The Highlands where she was able to do what she always liked best – eating. To our delight, however, she has recently decided to join Kirsty and Tom in Hampshire.

3. The Third Age of Kirsty began in 2000.

- With her love and interest in animals, it was no surprise that Kirsty decided to become a Vet. To our delight she entered Glasgow Vet School in 2000, despite offers from elsewhere. As everyone knows, Glasgow while not the biggest is the best Vet School in the World. When accepted Kirsty was heard to say “at least there will be one real Vet in the Family”.
- The Vet School places huge academic and social demands on its Students. It can also come as a shock to see a picture of your beautiful daughter going off to the National Students Conference in England, dressed as a Pirate in a Mini Skirt.

Tom & Kirsty met while students in Glasgow, drawn together initially by their incredible eclectic taste in music. From the start it was obvious that it was real love, they were completely compatible. Kirsty even followed Tom to New Zealand. They are so happy together.....

“So Happy Together

I did not meet Tom in his student days, but when I made enquiries with colleagues I know and trust, I found Tom was highly regarded and thought to

have great potential. This judgement has subsequently been confirmed. He now works at Liphook Equine Hospital, regarded as one of the best Equine Centres in the UK, employing only the Crème de la Crème.

Tom and I are both followers of football but I won't go into that.

He is a fine man with a friendly charming manner that has resulted in him having an amazing diaspora of friends from different backgrounds.

Kirsty and Tom complement one another so well. They let their love flow.....

“Let Their Love Flow”

Like Tom, Kirsty is a consummate Veterinary Surgeon. From a ‘Wild Child’ in Africa she has become a remarkable woman, tough when required but deeply caring and considerate of both animals and people.

Apart from Tom, Kirsty has four other passions, Her Family, Ivy the Festival Mobile Van, Red High Heels and Mickey. Mickey has been in the act from the beginning. His determination, enthusiasm and athletic ability to catch balls and collect huge tree branches are unsurpassed. The ultimate compliment that he pays me is to sleep wrapped around the back of my neck.

And now to our **Family**; We are truly an International One, and now combined with the McGinley's, we can say that in six of Seven Continents in the World

“We Have Walked 500 Miles”

I had the good fortune to meet someone like Christine and we were married in Nairobi nearly 40 years ago. She is

“My Best Friend “

In Kenya, we had 3 Wonderful children Katie, Max and Kirsty. Katie married Peter, a Highland Gentleman from the Isle of Skye and they have 2 amazing boys Peter Maxwell and George Allen who are here today ‘Hello Peter, Hi George’. Max married Bec, a vivacious and beautiful Scottish/Australian, he

met in Australia, and they have one son, the magnificent Maxwell William who is also here today, Hi Max,--- and today Kirsty married Tom.

One of the most fantastic outcomes of these unions, particularly as we live far apart, is that we retain a very powerful **Bond** among all our families, including I would add, the In-Laws, or is it the Outlaws?

Peter's Mum and Dad (Peter senior and Margaret) in Skye, Bec's Mum and Dad (Jess and Ann) in Sydney and well, what can I say about Sue and Johnny of no fixed abode ?

We met with Sue and Johnny for the first time in February 2011 for Dinner at the Ubiquitous Chip in Glasgow with Tom & Kirsty. The UC is an iconic restaurant close to The University. We had a great meal and a great time to the extent that the Matre 'D joined us for a final round of Malt Whiskies 'On the House'.

“Our Circle is Complete “

I know it is the custom to tell jokes at a Wedding.

Today I have to make an exception and tell a Story about my best friend Norman Wright and his wife Irene, by the way was the Best Dean Glasgow Vet School ever had.

This event occurred over 40 years ago before they were married when times were different.

Off to **Tighnabruaich** and Irene's Mummy was Worried.

Finally I must give – My Thanks to ALL of YOU.

- .
 - Thanks to the Tithe Barn and all the Staff for taking the risk of allowing such an amazing group of people under one roof.
 - Thanks to my Brilliant nephews, Lewis Allen and Michael Heneghan who organised my music.

And Lastly, Christine and I and our Mighty Family would like to thank all of you here today and those we wish were here including Mickey and Kiwi (Grandpa's dog) and Shuni.

And Now, I would ask you **ALL** to be upstanding and toast **THE BRIDE** and **GROOM** our Kirsty and Tom and wish them a **Happy** and **Rewarding** and **Fruitful Life Together**. They are

“Simply The Best”

Max Murray 24th September 2012

7.4. THE AGES OF KIRSTY: 21st Birthday

24th January 2004

Welcome and Thank you for coming.

What a sparkling array of people, although I have to say that we have had apologies from Robbie Williams, Justin Timberlake, Graham Sounness and Aunt Evelyn.

~~~~~

I cannot say I am unaccustomed to speaking in public, but I have rarely done so without slides. Hence, there is a picture presentation on all tables to help illustrate what I would like to say on :

The Ages of Kirsty

~~~~~

The First Age of Kirsty started on :

- Monday 24th January 1983 in Nairobi Hospital, Kenya, East Africa.
- She is an ethnic mix of Highland/Lowland Scots, Slovenian and English.
- She was a mighty beautiful baby, although we did have some doubts when she first arrived home. Max gave her a cuddle and then told Christine to take her back to the shop.
- Her character started to develop at a very early age.

1. **She loved socialising e.g.** the Sunday before she was born she had lunch at the Kentmere Country Club (Nairobi's answer to the Ivy) and the Sunday after she was born she had lunch at the Carnivore (Nairobi's answer to Simpsons on The Strand).

For confirmation I refer you to the picture of Kirsty sitting on top of the swimming pool cocktail bar at Diani Beach Hotel, Mombasa, and of Kirsty devouring a gigantic prawn at the Tamarind Restaurant, Nyali Bridge, Mombasa.

2. Her love of animals was quickly obvious: I refer to the picture of Kirsty sitting astride Sheba, our majestic Great Dane, and also to the picture of Kirsty in her favourite Safari Outfit of Tee Shirt, Kilt and Red Paddington Bear Wellies – a familiar sight at Nairobi’s Wild Animal Orphanage.
3. Kirsty soon became an astute judge of character: She developed a highly sensitive clinical Point-of-Care diagnostic technique for the assessment of human nature, namely, testing the texture of the human ear lobe by feel, sucking, or, in the last resort, a quick bite.



1984 Kirsty and her Best Friend Louise Loresho Nairobi

The Second Age of Kirsty:

This started in 1985 on our return to Glasgow. This was the age of The High School of Glasgow and Growing Up, I refer you to the picture of Kirsty and the beautiful Rebecca Smith-- I love those hats and look at those ears.

- As you know, she developed into a charming, caring, giving, determined perfectionist. She is also an optimist, e.g., if I am given two bottles of Malt Whisky for Christmas, I would be worried about my liver, whereas, if Kirsty was given a bag of horseshit, you would find her up to her arm pits in shit saying “Daddy I think Father Christmas brought me a horse but I cannot find it” !
- Kirsty developed a great love of horses, through Arran, the Police Horse, under the guidance of Rosemary and David at Auchineaden and Easterton, and the love of her life Shuni. I refer you to the bottom right hand side of the Picture Postcard which speaks for itself. As you can imagine, this was all much to Sandy Love’s disgust, stimulating the exclamation ‘not another bloody female horse lover’.

The Third Age of Kirsty began in 2000:

With her interest and love of animals started in Africa, and inherited through her maternal Grandparents, Ronald and Elsa, it was not a surprise that Kirsty decided to become a Vet and entered the University of Glasgow Vet School in October 2000.

- As we all know Glasgow is the best Vet School in the World.

We arra People – (I expect a Gigantic Cheer!)

When accepted Kirsty was heard to say that at least there would be one real Vet in the Family. The Vet School places huge Academic and Social Demands on its students. It sometimes can also cause some parental concern. It can come as a shock to see your beautiful daughter going off to a Veterinary Student Conference (Bristol) dressed as a Pirate in a Mini-skirt. I refer you once again to the picture Postcard.

Finally, a few words of thanks,

- We appreciate the Moat House Hotel and its Staff for taking the risk of allowing so many Vets and their Associates under the one roof.
- And I would like to say to everyone present, apart of course from Robbie, Justin, Graham and Aunt Evelyn.

Grandpa thanks you
Kiwi thanks you
The Family thanks you
Christine and I thank you

I would ask you all to be upstanding to toast our Darling Kirsty and wish her 'A Happy Birthday and A Happy and Rewarding Life'

KIRSTY

I WOULD LIKE YOU ALL TO REMAIN STANDING AND WISH A VERY BEAUTIFUL YOUNG LADY, MY NIECE, FELICITY ALLEN A HAPPY 12TH BIRTHDAY WHICH IS TODAY,

'HAPPY BIRTHDAY FELICITY'

(SING HAPPY BIRTHDAY PLUS 3 CHEERS)

THANKS

MAX MURRAY 31st January 2004

7.5 Birthday and Anniversary Cards

Remember, the love of your family
is unconditional & unwavering.
We are here for you through the good
& the bad times, the dark & the
sunny days. You have no need to
apologise or say sorry for how you feel
or what you are thinking. Save this
time & energy & put it into feeling better.
Don't worry about how long this takes or
what you have to do to feel better, all
we want is for you to feel better.
We are here for you -

No surrender! ✨

Kty ♥

2012 Fathers Day Cards from Kirsty and Katie

Dear Daddy,

Wishing you a very happy
birthday - relax and enjoy
it. Make it a day filled
with yellow.

I love you Daddy, you
inspire me and make me
want to be the best I can
be.

With much love

Kirsty x x x x



A YELLOW FLOWER
FOR YOUR BIRTHDAY.

3RD MAY 2005

2016 Our 40th Ruby Anniversary Cards
from Christine and KMK

8th September 2016

To our dearest Mummy & Daddy,

What a 40 years!

A love that has travelled continents
& spread to a new generation inspired to
seek out adventures around the world in
the determination to provide our children
with the wonderful lives that you created
for us.

We will be forever grateful for every
opportunity you have afforded us over
these years & will continue to look to you
for support & inspiration for the years
yet to come.

All our love & more
Katie, Max & Kinty ♥♥♥

Dearest Max,
A wee minding of our
very Happy Wedding Day
40 years ago! Can it
really be!?

Wonderful times
Wonderful family
Wonderful memories

all my love
ever yours
Christine
KMK

XX. REFLECTIONS

I have had an amazing life, with Christine and a wonderful family, Katie, Max and Kirsty, all born in Nairobi. We loved Africa and Africa loved us. All three did well at School and University, and are stars in their Professional Working Life. They found wonderful Partners, Peter, Bec and Tom with reciprocated love and they all get on exceptionally well together. They have delivered grandchildren every year since 2010 Peter Maxwell Martin, 2011 Maxwell William Murray, 2012 George Allen Lamont Martin, 2013 Molly Anne Christine Murray, then Martha Susan Christine McGinley, and Michael James Murray in 2014, Elsa MacKenzie Davidson Martin in 2015, and Edward John Maxwell McGinley in Hampshire in 2016.

I believe I have had a successful career encompassing great and exciting times in Africa and Glasgow, travelling the world usually First or Business Class. Always there has been Rangers FC and The Labour Party (until recently), and my belief in Scotland and the United Kingdom. From my early days, I was fortunate to have worked with and become friends with many amazing and inspirational people, especially George Crichton, Bill Jarrett, Ian McIntyre, George Urquhart, Frank Jennings, Jimmy Armour, Bill Martin and of course Norrie Wright etc., and then the Brewer Sisters, Stella and Heather in The Gambia, George Gettinby, John Trail, Charles Davis, Roger Clampitt, John Preston, James McAinsh and David Niven, Stuart Reid and Peter Kennedy, and two great Deans Sir James Armour and Norman Wright. Norrie has been my life long friend and colleague since we first met outside the Zoology Building of Glasgow University on October 7th 1957. I like to think that I was successful at ILRAD, saving it from disaster by facing up to Tony Allison who was sacked after 2 years. In my later years, I opted out avoiding the Dean's job, preferring identifying the stars of the future, research, business development, raising getting funds and dreaming dreams. Overall, I published over 400 papers, was involved in raising over £75 million for research, new buildings and business initiatives in Africa and in Glasgow, supervising 33 Post-Graduate Degree students, produced innumerable Professors, four Heads of Vet Schools (Glasgow- Stuart Reid then Ewan Cameron, Edinburgh-David Argyle, London-Stuart Reid), two Directors of Research Institutes, including the first female. I initiated numerous Honorary Fellowships (George Gettinby, James McAinsh, George Barr, Alison Bruce and Harry Pfaff etc.) and Honorary Doctorates of The University, my most memorable being Betty Svendsen (the Donkey Lady), Dauphne Sheldrick (the Elephant Lady) and Stella Marsden *nee* Brewer (the Chimpanzee Lady), the latter with Stuart Reid, as well, Bill Martin, Bill Jarrett, Gardner Murray, Chief Veterinary Officer of Australia, and John Preston, a Director of Merck Sharp & Dohme. I recommended many FRSEs, including, Stuart Reid, Norman

Drummond, Jimmy Armour, Henry Dargie, Paul Hagan, Ivan Morrison, Peter Kennedy, George Gettinby, Ian Duncan (Corresponding), Richard Dixon (my PhD Student, now a Millionaire who started up the hugely successful “Vets Now” and named his son and the ‘Vets Now’ Lecture Theatre in Dunfermline after me) and most recently, the amazing Douglas Hutchison (Founder of The Veterinary Times etc., and a Millionaire), Joseph Ndung’u (Director of FIND/WHO Diagnostics) and David Argyle, Head of The”Dick” Veterinary School in Edinburgh. I successfully nominated Peter Kennedy for a CBE in 2010 and the RSE Sir James Black Medal in 2014. This is the most prestigious award in Life Sciences in Scotland.

In retirement, I continued to love our garden and, as I did when I was a boy in Nitshill, I grew tomatoes and cucumber in our Victorian greenhouse, until 2011 when we had to pull it down-we were defrauded in its maintenance by a conman. I loved our roses but unfortunately they came under attack from the deer. I then turned to begonias and flowers from Tesco's. I became addicted to my Computer-set up by Lewis Allen, my nephew, and Drew McConnell, a great guy from the University: Amazon Prime, delivering orders, particularly books the next day and presents for Christine and The Family is fantastic. My love for music and singing never diminished and I continued to play the piano occasionally. In 2009 I was given iTunes when I was in Gartnavel for surgery. I was then able to download all my favourite tunes right back to when I was a boy: I also did some recording (cf., **Computer Picture File Q Videos 3 “Someone Like You”**). As well as writing this Book, in 2012 I was involved in a book for the 150 Anniversary of Glasgow Veterinary School with Philippa Yam (Editor in Chief), Peter Holmes, and Os Jarrett.

Currently, I am working with Tony Davies on an amazing nutrient, a fermented wheat germ extract (FWGE). Tony uncovered this in 2000 in a consultancy he was doing for the EEC. An Hungarian Company showed that this extract stimulated growth and the immune response in farm animals and poultry. Subsequently, we have found that it has a wide range of beneficial effects on horses, and dogs and cats, including behaviour, gut, skin, feet etc. We have found that it stimulates the paraventricular nucleus in the Hypothalamus, releasing a range of beneficial hormones. We believe that this is related to the gut microbiome activating the gut-brain axis. At present, we are selling FWGE as eCalm for horses and RxVitalise for dogs and cats-maybe I will be a Millionaire yet!!! We believe that we have opened a major new door in Animal and Human Medicine and Health.

Since retirement, I and more recently Jack Boyd have organised regular lunches with The Grumpy Old Men (GOM) with Norrie Wright, Os Jarrett and Hugh Pirie-we discuss Scottish Independence (we are all Unionists), our Health, The Vet School, but unlike days of yore nothing about Women or Football. I had a wonderful experience just before Christmas 2013 (Friday 17th December). Stuart Carmichael invited me out for lunch at Andiamos in Milngavie. Stuart picked me up in his Mercedes. When we arrived I saw Douglas Hutchison walking up from Milngavie Train Station. The three of us were then shown to a table for 8-which I thought was rather strange as the Restaurant was nearly empty. Then Stuart Reid walked in, then Sandy Love, then Dom Mellor, then Richard Dixon-all my Boys-all hugely successful. We discussed Inspiration and 'My Magic Essence' What a wonderful surprise and what a wonderful lunch!!! The Max Murray Lunch was repeated in Andiamos in December 2014.

I like to think that in my career my best asset or possibly "Magic Essence" inherited from Jarrett, McIntyre and Crighton etc., was with People, an ability to inspire, excite and promote a happy-fun team environment with a Work Hard Play Hard Ethic, spanning the tea ladies (Carol Murray etc.), secretaries (Linda Bellingham etc.), technical and academic staff-we were all important-"we were the people" I could not have done it without the machinations of the entrepreneurial Brian Wright, Mr Fixit-my Departmental Manager.

Christine has been my amazing Lady who should take the CREDIT for Everything. She has been My Rock!!! She is Beautiful-a total wife, mother, daughter, masterchef, master craftsman, great driver, world class common sense, incredible carer-looking after Cathy Love, her Mum, My Mum, Mick and Her Mum and Dad, and Me etc.,etc., to name but a few-I can say no more!

NOTHING COMES EASY

BUT WHO WANTS NOTHING?

XXI. ARCHIVES (Blue Spring/Box Files: 1-7, Computer Picture Files, Plastic Boxes with DVDs, Slides)

1. Awards-Medals (file 1)

2. Academic Diary 1985-2003 (files 2.1,2)

1. My Department-Organisation and Strategy
2. Building Programme
3. Technology and Business

3. Africa (file 3)

1. Glasgow Nairobi Vet School 1963-65
2. ILRAD
 1. History 1969-including Villa Serbelloni
 2. Inauguration 1978
 3. Personnel Evaluation
 4. Research
 5. Leadership Training Seminar-1977
 6. 1979 My Battle with Director General
 7. Scrap Book: Farewell Party Nairobi: June 1985
 8. Nairobi's Finest Restaurants
3. The Gambia ITC
4. ILCA
5. David Livingstone

4. Correspondence and Orations (files 4.1,2)

1. Major Appointments Glasgow 1985
ILRAD 1975
2. Other Career Opportunities
3. Letters of Praise/Congratulations/Thanks
4. Strategy Correspondence
5. Memorable Letters

6. 1974 The Year
7. Ian McIntyre
8. Family Correspondence 1976----
9. Some Honorary Degrees I proposed
10. Shawlands Academy Prize Giving Speech 1989
11. SYNERGY VIE 1998
12. Retirement Speeches 2004
13. Richard Dixon “The Herald” 2006
14. Prestons DVMS Celebration 2007
15. SAH £13K Donation from Christine 2007
16. FRCVS Citation 2014
17. Money Matters, Bets

5. My Publications, Presentations (Chapter XIII)

- Publications (**Spring files 5.1,2,3. Box files 4.**)
- Complete Journals (**included in 5.1,2,3**)
- Books/Chapters (**Book Case**)
- Some Published Abstracts (**Box file 5.5**)
- Major Papers Presented (**Box files**)

File 5.6.1. Weipers Lecture Glasgow 1991

The Stevenson Lecture Glasgow 1990

Chaga’s Centenary Lecture R de J Brasil 1979

25th Trypanosomiasis Seminar Glasgow 1989

Int Congress of Immunology Brighton 1974

Inf Dis Society America LasVegas 1983

AVMA Atlanta 1986

AVPA Atlanta 1986

Wellcome Trust Lecture Scarborough 1987

William Dick Lecture Edinburgh 1988

File 5.6.2. Trypanosomiasis 1972-79

Trypanosomiasis 1980-8 Trypanosomiasis 1984-87

File 5.6.3. Trypanosomiasis 1988-1994

Kilifi Plantations significant unpublished

File 5.6.4. Bovine Ostertagiasis

Fascioliasis

Nippostrongylus brasiliensis

Parasitic Immunity

Renal/Herpes Mamillitis

- My University Documents (**Box file 5.7**)
- My Historic Publications (**Box file 5.8**)

6. Curriculum Vitae etc. (Box/Spring files)

1. 1962-2003 CVs (**Box file 6.1**)
2. Retirement 2003 (**Box file 6.2**)
3. Obituaries, Philosophy (MM The Famous)(**Spring file 6.3, Computer**)
4. Poems, Academic Guidelines (**Spring file 6.4**)

7. Picture Files (Computer, Boxes: DVDs, Slides, and Album)

1. Computer Files **1939-2015**
2. DVDs*
 1. DVD Contents (**Spring file**)
 2. 1962-1965 Kenya
1965-1972 Nitshill
Weddings Katie and Kirsty
Max's Graduation 2001
The Allens
Songs I Sing/Philosophy
Gambian Goals BBC 2 2008 etc.
 3. 1985-2008 Glasgow (Vol.1-43, Family)
3. Slides*
 1. Family, Invited Lectures
 2. Research
4. Album
 1. Retirement reception 2004

*All in Labelled Plastic Storage Boxes

XXII. ACKNOWLEDGEMENTS

In my personal life my Mum and Dad were inspiring and had a belief that all the family should be encouraged not only at school but in music, singing, dancing, sport etc., etc. Later Christine's Mum and Dad were very kind to me.

We have friends all over the world, including, The Prestons, The Gettinbys and The Wrights, The Hutchisons, The Sayers in Nairobi, The Davis Family in San Diego and the Davies in London whom we rarely see but are always in our minds. Sadly, George Gettinby died suddenly on 10th June 2014-DEVASTING!!!

In my professional life, the biggest influence came from Bill Jarrett, George Urquhart, Ian McIntyre, George Crighton, Tony Davies, Jimmy Armour, George Gettinby and Norrie Wright.

Finally to quote from my WAAVP/Pfizer Prize Lecture of August 1997 in Sun City South Africa, "I would like to recognise the support of my Family, particularly over the last few years, my beautiful wife Christine, my daughters Katie and Kirsty, and my son Max. As James Cagney once said in the wonderful movie "Yankee Doodle Dandy", 'My mother thanks you, my father thanks you, my family thanks you, and I thank you'.

It Has Been

A

"Great Adventure"

THE FOUNDERS OF OUR FAMILY



1978 Martha and Max Nairobi



1983 Ron and Elsa Nairobi



1983 Us Nairobi



Our Family Our Story

WE ARE PURE DEAD BRILLIANT

ONWARDS AND UPWARDS

