

## OXFORD AND BIOLOGICAL ANTHROPOLOGY

*Geoffrey Harrison*

### Introduction

Physical Anthropology, later to be renamed Biological Anthropology, was born out of Darwinism and evolutionary theory. The fact that there was a continuous descent connection between human beings and the rest of the living world added an important biological dimension to the study of human existence. Initially, the subject was almost exclusively evolutionary in content and concerned with the course of human descent as evidenced in the fossil record, the comparative structure of humans with their closest living relatives: monkeys and apes, and the great biological diversity of recent human populations, which apparently could be classified into races. Such studies required detailed knowledge of human and comparative anatomy and particularly of bones and it is therefore not surprising that physical anthropology was mainly studied in anatomy departments of university medical schools. This was very much the case at Oxford where for well over a half of its history physical anthropology was a laboratory of the Department of Human Anatomy, where two professors of Anatomy, Arthur Thomson and Sir Wilfrid Le Gros Clark, not only promoted the subject but also taught and researched in it.

After the Second World War, however, the subject changed quite markedly and became much broader. While the focus has remained evolutionary, attention was increasingly given to all aspects of human and primate variety, its nature, origins, development, causes and effects at the cellular, tissue, organ and whole body levels including behaviour and with as much attention given to environmental determinants as to genetic ones. Thus the subject now includes human population genetics, human developmental biology, physiological anthropology including nutrition, medical anthropology and human ecology sometimes grouped as human population biology but more commonly included with the evolutionary perspectives as biological anthropology.

Oxford was among the first institutions in the world formally to make the name change of physical anthropology to biological anthropology: a change that was recognised by the *ad hominem* promotion of Geoffrey Harrison to a Professorship in Biological Anthropology and the establishment in 1976 of a Department – later termed Institute – of Biological Anthropology, fully independent of Anatomy and housed in an attractive old Victorian house on the Banbury Road. On Harrison's retirement the Professorship became established and the first holder, Ryk Ward was appointed in 1994. (A list of all the academic teaching staff in the subject is appended at the end of this chapter.)

### Teaching

Throughout its existence the Diploma in Anthropology mainly attracted graduates interested in social anthropology. However, there was always a compulsory component of physical anthropology in it as well as optional papers. Indeed a number of senior biological scientists were on the Committee for setting up the course including W.F.R. Weldon, Professor of Zoology and F. Gotch,

Professor of Physiology, as well, of course, as Professor Thomson. The syllabus for physical anthropology was given as ‘Elements of Physical Anthropology including the comparative study of the principal anatomical characters which (a) determine the zoological position of Man amongst the Anthropomorpha and (b) distinguish the chief races of Man from each other together with methods of measuring and recording such characters’. Thomson offered lectures on the ‘Elements of Physical Anthropology’, Weldon on ‘Elementary craniometry’ and Gotch on ‘Structure of Special Sense-Organs and Skin’. Apart from an ever greater focus on fossil remains as more were discovered, the course does not seem to have changed very much in the 1920s and 1930s.

The situation became very different after the Second World War. Generally this can be recognised as being due to the rise of genetics and greater understanding of the evolutionary processes, but in Oxford it can be attributed to Joseph Weiner. Weiner had experience in palaeoanthropology from Raymond Dart in South Africa, but he was first and foremost a medically trained human physiologist. He appreciated the significance of advances in genetics and was particularly interested in the nature of physiological adaptability. With Derek Roberts he substantially changed the composition of the Physical Anthropology syllabus of the Diploma. When Harrison succeeded Weiner, time was clearly right for further change and he, with John Owen, co-operated with other anthropologists and archaeologists in setting up in 1964 four separate Diplomas, for one of which, the Diploma in Human Biology, they were solely responsible (but see Introduction to this book, p. 9). The syllabus for the nine-month course consisted of human genetics, human development and behaviour, human ecology and human and primate evolution, each represented by a paper in the final examination along with a practical examination. It will be noted that only one paper focuses specifically on evolution which contrasts strikingly with earlier versions. It is sometimes asked why it was called ‘human biology’ especially as this has caused some confusion with anatomist, physiologists, *et al.* It has to be admitted that ‘marketing’ played a significant role, especially for a ‘diploma’ since this title carries little weight outside the UK. It was thought that human biology would ‘open more job opportunity doors’ and the subsequent experience of students confirms this. Human population biology would, however, have been a better name.

In 1979, a year-long M.Sc. in Human Biology was also established. The syllabus for the theory papers was almost identical to that for the Diploma but the Master’s also required the submission of a dissertation of supervised original research. Following Ward’s appointment some changes to the syllabus were made emphasising the increasing importance of genetics, and particularly molecular genetics, at the expense of human ecology.

After its establishment the Master’s course became the preferred choice of almost all candidates. These tended to average about six each year, which was ideal, but occasionally as many as twelve were admitted and this taxed laboratory facilities to the limit. The M.Sc. became a common step but not formally a pre-requisite for admission as a D.Phil. research student. Today a number of steps are required before full admission as a research D.Phil. student and a Master’s qualification either by research or course work counts towards some of these. Until very recently physical/biological anthropology at Oxford was considered to be best taught at the graduate level and candidates for the Diploma/Masters in Human Biology typically had first degrees in either biological or medical sciences.

Notwithstanding this focus on graduate training an optional paper in Anthropology was introduced in the Honour School of Natural Science as early as 1885! Initially the syllabus was quite wide and foreshadowed the Diploma (see Rivière, this book) but increasingly focussed on the physical anthropology elements. For much of its history, no one appears to have elected to offer it in examination but it began to be ‘found’ by a few students in the 1970s. Latterly, and through the efforts of Vernon Reynolds it became quite popular, especially with undergraduates reading chemistry and biochemistry. It also attracted a few zoologists some of whom later turned to anthropology.

Lectures in biological anthropology have also been offered at various times to medical students but the subject was never formally examined. Nevertheless, the lectures were usually well attended which, considering the heavy load of compulsory work for medical students, was gratifying. Some students even thought that the lectures would be of considerable value to them in medicine!

The main introduction of anthropology to undergraduate studies came, however, with the first intake for the Honour School of Human Sciences in 1970. The primary aim of this degree is to educate students with either scientific or humanities backgrounds on the interrelationships between relevant biological sciences and social sciences: to bridge, as John Pringle the instigator of the degree saw it, the ‘two cultures’ divide. Clearly, a large anthropological input was needed and biological anthropology played a seminal role in the setting up of the degree and in its subsequent administration and teaching. Of the five compulsory papers in the Honour School, two and one-half have been mainly taught by biological anthropologists, Harrison, Anthony Boyce and Reynolds, and in recent times by Ward, Nicholas Mundy, Stanley Ulijaszek and Ros Harding.

Initially, there was hostility to the degree in some quarters of the University and some colleges, it being seen as too broad. But the breadth is something of an illusion and there is plenty of depth as has now been largely recognised. At least it only deals with one organism unlike the millions studied in zoology! From a modest start there is currently an annual intake of forty to fifty, whose school qualifications are at least as good as any other group entering Oxford. Gratifyingly graduates have found jobs in every kind of occupation from the commercial to the academic and are not seen, like most scientists, as being highly specialised.

A more specifically anthropological undergraduate degree was also set up with archaeology in 1992 – the Honour School of Archaeology and Anthropology. The anthropological component of this is heavily weighted towards social anthropology and ethnography, but there is an obligatory component of biological anthropology and a number of options in this field. Reynolds was much involved in the setting up of the degree and Ulijaszek now teaches the compulsory human evolution and ecology component.

All these courses, and many others elsewhere, benefited greatly from the publication of a text book, *Human Biology: An Introduction to Human Evolution, Variation and Growth* which among many things clearly defines the field of modern biological anthropology. The first edition of this book appeared in 1964 with two of the four authors closely associated with Oxford (Harrison, Weiner, James Tanner and Barnicot 1964). It subsequently ran to two further editions with some change of authorship but always with a strong Oxford connection and throughout published by Oxford University Press.

## Research

No specialist palaeoanthropologist has ever been appointed in Oxford, but the University established a strong international reputation in the field. This was mainly due to Le Gros Clark, Professor of Human Anatomy. Although his principal researches were in neuroanatomy he had a career-length interest and commitment to anatomical studies of human evolution. He published two highly influential books; *Early Forerunners of Man* (1934) and *The Fossil Evidence for Human Evolution* (1955) essentially covering the whole field as then known, and he himself actively researched a number of issues. He was not one who went out to discover new fossil remains, which allowed him to be totally impartial in his evaluations, and instead he undertook wide analyses of major issues. He was not only a fine anatomist but also had a better understanding of broad evolutionary principles than any other anatomist of his time. His main accomplishment in this area was in establishing the status of the australopithecines. By a detailed quantitative analysis of functional units in the skulls of these organisms he was able to demonstrate unequivocally that despite their small brains and ape-like jaws they were terrestrial bipeds with clear hominid affinities. This confirmed the more impressionistic evaluations of their discoverers, Raymond Dart and Robert Broom in South Africa.

A very different kind of contribution to palaeoanthropology was the identification of the Piltdown fossils as fraudulent in the 1950s by Weiner. These remains, ‘discovered’ early in the twentieth century, became increasingly anomalous as more hominid fossils were found. They appeared to show that brain enlargement was the first feature to occur in hominid evolution. This was a major cause for the unwillingness of most British palaeontologists to accept the australopithecines as hominid. On learning that the provenance of the so-called second Piltdown remains was poorly recorded (which also showed ape jaw-like features with a modern human

braincase, and thus could not be an accidental association which many people at the time had thought), Weiner concluded that the fossil must be a fake. In collaboration with Le Gros Clark and Kenneth Oakley of the British Museum (where the fossil was kept), Weiner showed on innumerable tests that the cranial pieces were those of an anatomically modern human and the jaw and teeth were those of a 'doctored' recent orangutan (Weiner 1955).

A third less dramatic contribution to evolutionary studies was made by Oxford anthropologists in the early 1960s. Up to that time animal taxonomies, often had varying purposes, and often were merely impressionistic. 'A taxon was what a good taxonomist recognised as a taxon!' In particular, there was wide confusion between a natural (now called phenetic) classification and an evolutionary (or phyletic) classification. To try and help to overcome these problems systems of numerical taxonomy, based on the combined analysis of many characters, were developed. Harrison with Arthur Cain (of Oxford Zoology) contributed to this development and in particular showed how a phenetic classification could be converted to a phyletic one, and Boyce, an Oxford zoology graduate, was among the first to apply numerical methods to the classification of hominids.

Notwithstanding these significant contributions to palaeoanthropology, Oxford physical/biological anthropology has mainly focussed on modern and recent populations of primates and especially *Homo sapiens*. Initially, the concern was almost entirely with the affinities of groups of people with one another, with their classification into so-called races and with establishing historical connections between past and present groups. Since past groups are only represented biologically by skeletal material, a great deal of attention was given to bones and especially the skull which is a complex structure showing considerable variation within and between human groups. Comparisons were made by meticulous measurement and sophisticated statistical treatment. Indeed statistical science owes much to the skull measurers and if one declared in the 1920s and 1930s that one was a physical anthropologist, the invariable response was 'so you measure skulls then'. The fundamental weakness of the approach was that the skull was only seen as a complex piece of solid geometry and measurements were taken from points that were most clearly identifiable rather than of any functional significance. Nevertheless, the patterns of population groupings which were identified from skull and head measurements are quite similar to those derived from modern genetic analysis.

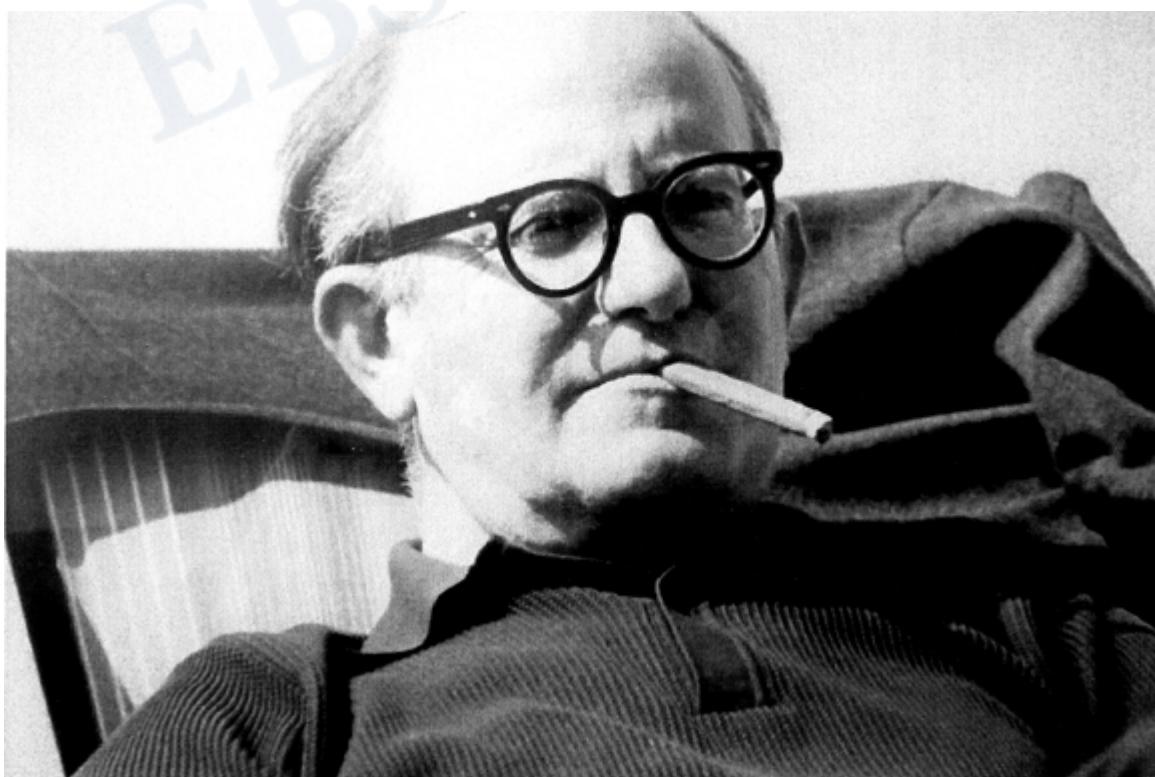


Figure 11. Joseph Weiner, Reader in Physical Anthropology 1945–63. Copyright School of Anthropology, University

The first Reader in Physical Anthropology at Oxford, Leonard Dudley Buxton undertook some craniometrics and was, for example, involved in examining archaeological material from Crete and Mesopotamia. But he never became a slave to the approach like so many of his contemporaries. He was much more interested in general ethnology and recording the patterns of human variety around the world. He wrote for example a book, *The Eastern Road* (1924), covering his anthropological observations while travelling in the Far East, and spent time measuring the anthropometric features of Oxfordshire villagers. He had been a Demonstrator in Anatomy before his appointment as a Reader and collaborated with Thomson, in a number of researches. A particularly insightful piece of work they undertook was to examine the global distribution of variation in the nasal index. This showed a high correlation with the variability in the geographical distribution of atmospheric relative humidity and was perhaps the first occasion when anthropometrics were examined in a functional way.

Craniometrics became a pursuit of the past at Oxford when Weiner was appointed to the Readership after the Second World War. As a physiologist Weiner was primarily interested in function and how functions varied in different peoples in different environmental situations. His special interest was in the ways that humans adapted to high temperature and he researched many aspects of sweating mechanisms, which are so remarkably well developed in humans and must have played an important role in human evolution by allowing high levels of activity in the heat of the tropical day. He also refined the analysis of Buxton and Thomson on nasal structure by showing that geographical correlations were greater with better measurements of humidifying power than relative humidity. Clearly the nasal passages are adapted to ensure satisfactory humidification of inspired air. Weiner's interests were, however, much wider than human physiology. In addition to the Piltdown work already mentioned, he led a large expedition to South West Africa (now Namibia) to document the physical characteristics of the various ethnic groups found in that country, from blood groups to adiposity and skin colour.

During his time as Reader he headed a Medical Research Council (MRC) research group in climatic physiology, which on his resignation from Oxford he took to the London School of Hygiene and Tropical Medicine. He also became greatly involved in ergonomics. As just one of many examples, his team developed a 'bed' for the treatment of heatstroke victims on the Mecca Haj. He was the inspiration behind the foundation of the Society for the Study of Human Biology (SSHB) and the creation of its journal *Annals of Human Biology*. He also became the International Convenor of the Human Adaptability section of the International Biological Programme (IBP) – a major undertaking for which many countries were encouraged to develop their human population biology researches. Special emphasis was given to multidisciplinary approaches which often meant scientists from different countries collaborating and the standardisation of various measuring techniques.

Weiner's climatic interests encouraged his colleague, Roberts, to undertake a large scale analysis of the relationship between climatic variation and various body characteristics as recorded in the literature. Roberts was the first to show that the human species obeyed the ecological rules of Bergmann and Allen in that, on average, the surface area of the human body declined in relation to volume with increasing latitude and decreasing environmental temperature.

Roberts subsequently turned his attention to human population genetics. He undertook a pioneering study of the genetic structure of Dinka villages in the Sudan. This highlighted the importance of size and mobility on population structure. He also (with Robert Hiorns of Oxford Biomathematics) made some of the best estimates of the extent of the intermixture between whites and blacks in the USA. He later became Professor of Medical Genetics at Newcastle.

Harrison, with a background in biological and medical sciences at Cambridge and Oxford, had also been a student of Weiner and had similar interests: variation, adaptation and fitness in present day populations. His first researches, suggested by Weiner, were with experimental animals in which genetic factors could be controlled and all within strain variation was due to environmental conditions. He was particularly interested in features of growth and development and showed with mice in different temperature conditions and later, with John Clegg (of Liverpool), with rats at different atmospheric pressures that some of the environmental effects facilitated survival in the

environments that produced them i.e. were adaptive, whilst others represented the health and well-being of the animals i.e. were fitness measures. Owen continued this animal work especially in unraveling the development of the immune systems in which so much unique individuality resides. His pioneering researches in this important field led him increasingly away from anthropology and he left Oxford to pursue them first with the MRC and later at Newcastle and Birmingham.

Harrison's animal experiments formed the basis for a number of studies of altitude effects on the human biology of Ethiopians. Altitude was chosen for investigation because there can be great variation in it in short geographical distances and therefore in genetically and culturally similar people. This situation occurs in the Simien mountains of northern Ethiopia which are also quite densely populated. The studies showed there were marked differences between highlanders and lowlanders, some of which were due to direct altitudinal effects such as in haematology and lung function measures but that others were due to indirect effects such as the varying economy between highlands and lowlands which affected nutrition and growth.

Harrison also undertook field researches in a number of other situations of human biological interest, in Namibia, Brazil, India, Papua New Guinea and Australia as well as in the UK itself (Harrison and Gibson 1976). They focussed on components of human adaptation, and ranged from investigating the functional significance of genetic polymorphisms to the effects of breast feeding on the body composition of women in Papua New Guinea. Increasingly, attention was given to issues of nutrition and child growth and in collaboration with Gerry Brush (Computing Officer in the department) the changes that occur in the levels of stature and weight variability during growth and in different environments were examined. These changes clearly reveal the effects of environmental quality and of changing capacity for homeostasis.

In the Papua New Guinea researches (a joint British, Australian and PNG IBP project) Harrison collaborated particularly with his colleague Boyce. Following his involvement in numerical taxonomy, Boyce became increasingly involved in researches of human population genetics. He was especially concerned with the genetic structure of populations and examined by matrix analysis, for example, the effects of migration and geographical location on the levels of genetic relatedness between the villages of Karkar Island in PNG which have a circular distribution around a central volcano. By also taking account of village sizes he was able to predict the patterns of gene distributions. Another area in which he was able to use his considerable mathematical talents was in devising quantitative models of people's knowledge of their neighbourhoods to explain marriage patterns between groups of Oxfordshire villages. The wider concerns on population structure are well evidenced in the book *The Structure of Human Populations* (Harrison and Boyce 1972). Boyce also provided great statistical help to researchers in the Institute of Molecular Genetics at the John Radcliffe Hospital (Institute of Medical Research) in their various molecular studies of population relationships (Boyce and Mascie-Taylor 1996).

For some twenty-five years research in biological anthropology at Oxford was run by a trio: Harrison, Boyce and Reynolds. The background and interests of Reynolds were somewhat different from those of the other two. Almost uniquely in the UK he was an academic biological anthropologist who had a first degree in integrated anthropology (from UCL). He was thus much more expert in social dimensions and these have been increasingly recognised as being vital to understanding innumerable problems in human biology. This very special position of Reynolds is well seen in his important books: *The Biology of Human Action* (1976) and *The Biology of Religion* (with Ralph Tanner 1983). His first researches were in primatology but when he came to Oxford, by force of circumstances, he had become involved in studies of child behaviour. It is a remarkable fact that until very recently biological anthropologists had ignored the juvenile phase of human experience – except for child growth which for long has been endlessly investigated. Reynolds continued his child behaviour studies in Oxford, particularly into the nature of autism, but increasingly turned to more broadly ecological issues. He pioneered, for example, the use of heart-rate monitors for examining human activity patterns. In the later stages of his career, however, he returned to primates and especially chimpanzees having become deeply concerned with their survival and conservation. He returned to Uganda where he had undertaken his first work and established the Budongo Forest Project which still prospers. This project focuses on the ecology and

behaviour of the forest chimpanzee but it is also much concerned with forest conservation – clearly a prerequisite for chimpanzee survival. Researches are therefore undertaken on the relationships between forest, wildlife and the local human populations (Reynolds 2005).

Further to these largely individual interests, the whole Department of Biological Anthropology was involved from 1965 in a diversity of researches into the total human biology of a group of Oxfordshire villages in the so-called Otmoor region. These studies were not only pursued by almost everyone in the Department, including numerous research assistants employed on outside grants, but also other Oxford colleagues, especially Hiorns of Biomathematics and researchers from Cambridge, particularly John Gibson and Nicholas Mascie-Taylor. The studies began when it was discovered that the ecclesiastical parishes of Otmoor – a rather distinctive region – had excellent church records of baptism, marriage, and burial more or less continuously from the midsixteenth century in some cases. These records were copied by Christine Küchemann and Boyce and assembled into individual life histories and re-constituted families. It was thus possible to reconstruct the historical demography of the region and examine the effects of changing environmental and social conditions. Particular attention was given to the analysis of geographical mobility, especially marital mobility because of its profound effect on genetic structure and, from this analysis, predictions could be made about the genetic heterogeneity of present day inhabitants.

The second phase of the study was to test those predictions and for this purpose blood samples were collected from villagers and tested for various genetic polymorphisms, e.g. blood groups, serum proteins and isozymes. In addition, a series of more complex characters were also measured, such as stature, bodyweight, IQ and personality traits. These latter characters have both genetic and environmental determinants to their variation and also may be expected to influence the form of any mobility. The genetic polymorphisms fitted the demographic predictions perfectly, but there was substantial heterogeneity between the villages in the anthropometrics and the psychometrics. IQ was clearly associated with the form of in-migration and even more so with social mobility i.e. the vertical movement between social and occupational groups. Some evidence was also obtained of relationships between various polymorphisms and psychometrics, but these need further investigation.

Since all of the Otmoor researchers were impressed by the goodwill of the villagers and many of them remained interested in the studies, a third stage of investigations was launched. This focussed on states of well-being which are not only of immense practical importance but probably also of great evolutionary significance. Three measures of well-being were employed: (1) medical history, (2) reported sleep patterns especially in sleep duration and sleep latency and (3) levels of adrenaline and noradrenaline output as measured in urine and examined against reported lifestyles and well-being perceptions. Very briefly, in conclusion, sleep duration is related to what people do, sleep latency to how people feel, and adrenaline to arousal levels and how these vary on a daily basis. The results of the whole Otmoor researches are summarised in Harrison (1995) and owe much to the input from Caroline Palmer.

Following the insight gained from the hormone studies of Otmoor, Harrison extended their use to various other population situations. He was also able to add assay of glucocorticoids, and especially cortisol to the assay of catecholamines. A number of interesting findings were made. There are, for example, enormous differences in the levels of excreted adrenaline between populations, with some Polynesian traditional islanders putting out only about a third of that from people in urbanised developed societies. He also showed, with Lincoln Schmitt of the University of Western Australia, that surprisingly, cortisol secretion is less in Aborigines in the towns of northern Australia, where all the problems of violence and alcohol abuse are everywhere evident, than in the outstations where drinking is largely forbidden and violence is rare. Raised cortisol is found in various stress situations such as chronic depressions, and the findings suggest that boredom can be more harmful than social disintegration.

Harrison retired in 1994 after thirty-one years in office. Reynolds in 2001 after twenty-nine years in office and Boyce took on an ever-increasing role in the affairs of St John's College from 1990, after eighteen years in research. These more or less synchronous changes were inevitably going to have a profound effect on the Department. Initially all went well. The Chair in Biological

Anthropology became established and Ryk Ward from the University of Utah was appointed. He was very much a geneticist who had undertaken impressive researches on the Yanomama Indians of Venezuela and the West Coast Indians of North America. He also persuaded the University to set up another temporary five-year lecturership in Primate Genetics and Mundy was appointed. Further a long established Departmental Demonstratorship was converted to a Lecturership in Human Ecology to help meet the needs of Human Sciences. The first holder of this post was Stanley Ulijaszek. A further temporary post was created when Boyce's duties at St John's became so time consuming that he largely had to give up departmental responsibilities. This was paid for by the College and Ros Harding, an Australian geneticist, was appointed to it. She is principally needed to meet teaching requirements but she has had a distinguished research career as a mathematical geneticist.

By the time of Ward's appointment human genetics had largely become molecular genetics, a field of enormous medical as well as evolutionary importance. Ward was completely committed to it and began researches in various aspects from establishing the form of genome variety geographically to the molecular genetics of blood pressure variation and the particular susceptibility of peoples of African descent to hypertension when living in modern societies.

Molecular genetic studies, however, are both expensive and require considerable laboratory facilities. Those on the Banbury Road were too modest for Ward's requirements and on his appointment he was given extra laboratory space in the Zoology Department. Even these however became limiting and running a small department on a split site was far from easy. Ward therefore persuaded the University to provide more laboratory space in Zoology and proposed that biological anthropology be moved in its entirety to the Zoology building, which was being extended anyway, and become a sub-department of it. This was due to take place when Ward suddenly died in post. His death was a tragedy for the Institute of Biological Anthropology and the culmination of a series of disasters for the subject. Reynolds had retired and his post 'frozen' at least in part because of the heavy debt the Department had run up; Mundy's temporary lecturership had not been renewed, so despite his excellent researches into primate molecular genetics, especially of marmosets, he left to take up a permanent post in Cambridge. Boyce was mainly involved in affairs at St John's College where he had become Bursar, and Ulijaszek had moved into the Institute of Social and Cultural Anthropology. He came to Oxford as an anthropologist and wanted to remain an anthropologist. He certainly felt that Zoology was the wrong place for biological anthropology in which he recognised the imperative of taking account of social processes in almost every aspect of human biology. He had been very active in research in a number of areas of human ecology: nutrition, growth, body composition and medical anthropology particularly in Papua New Guinea. Even in the short time he has been in Oxford Ulijaszek has published innumerable papers. Ecology is certainly one of the main growth fields in biological anthropology in the rest of the world and cannot be properly pursued without taking account of social dimensions (Ulijaszek and Huss-Ashmore 1997).

A very important role that Oxford Biological Anthropology played in promoting research was by administering the Boise Fund. This fund was established from monies given to the University by Charles Boise, an East African businessman with a deep interest in human evolution especially in Africa. Grants were regularly made from the Fund to support research in this field and mainly to young doctoral research students for field expenses. Support was highly international and many biological anthropologists throughout the world now owe the Boise fund greatly for the help it provided at the outset of their careers.

To summarise, biological anthropology at Oxford has largely been involved throughout its history with present day human populations and other primates, especially chimpanzees. A great diversity of projects has been carried out in many parts of the world but they have tended to focus on elucidating current and recent past population structures. In this various approaches have been used, demographic, genetic, ecological and social and the ways in which these different forces interact to produce a particular overall structure. Focus has also been given to issues of function and especially with the components and processes of adaptation, again from a multidisciplinary perspective of genetics, physiology and behaviour. One of the most significant achievements has been the elucidation of the general relationships between the processes of adaptation and the health and well-being of individuals and populations. It must be clear from this why biological anthropology at

Oxford had developed hand in hand with the Human Sciences undergraduate degree, and many of the research students in biological anthropology read Human Sciences for their first degree.

An inevitable consequence of the ever more detailed attention given by biological anthropologists to the detailed structure and function of populations has been the increasing importance of fieldwork in research. In the early days of biological anthropology everywhere, fieldwork mainly involved the collection of materials such as anthropometric measurements or blood samples. This usually required no more than two or three weeks away from the laboratory with little need to be involved with the human subjects, except to obtain informed consent for the study. Very rarely was knowledge of local languages obtained (except for 'please' and 'thank you!') so investigations could easily move from one part of the world to another. All this has changed. Nowadays, in human ecology long periods of time are required in the field, often for as much as one or two years at a time, and repeat visits and a working knowledge of local languages are essential. Inevitably researchers tend to spend most of their working life with a few peoples and in a particular locality.

The evidence from Oxford is that women are much more willing to undertake these commitments than men. Mention can particularly be given to Catherine Panter-Brick (now Professor at Durham), Melissa Parker, Astier Almedon, Daniella Sief, Mary Ryan and Jo Myers Thompson who undertook long and arduous fieldwork under extremely difficult conditions in recent years. And many others shared to some degree in their experiences.

Another general feature of Oxford biological anthropology and shared with all other similar departments in Britain is in the training of academic teachers and researchers. Here, in contrast to the USA, people tend to move into the subject relatively late. Very few have read for a first degree in any aspect of the subject and most have done their doctorates only in related fields. At Oxford the only established staff member with both a first and second degree in anthropology has ever been Reynolds. All others have first been trained in such fields as genetics, zoology, anatomy, physiology, medicine and geography. From a research point of view there has been some merit in this but the only one with a comprehensive knowledge and total commitment to the whole of anthropology has been Reynolds. This is in marked contrast to the USA where a Ph.D. in anthropology, with substantial course work as well as research, is almost obligatory for a university teaching post in biological anthropology. This ensures a stronger loyalty to anthropology which can be very valuable when conditions become difficult.

With the death of Ward, biological anthropology at Oxford came to a complete halt: practically no staff, no M.Sc. students, no research students, no library and apart from some laboratory space in Zoology, no home!

These dire circumstances arose during a period when the University was undertaking one of its regular internal reviews of the whole of Oxford anthropology. Rightly the committee undertaking the review contained no Oxford anthropologist, just two externals – one in social anthropology and one in biological anthropology. The other members were predominantly biologists but did include an archaeologist and a geographer. Amazingly, it was exactly the same committee which was asked to examine the future of biological anthropology. One might well have thought that with such a remit more expertise in biological anthropology would have been added to the committee. Some external opinion was sought in writing but much of the advice given seems to have been disregarded.

The key recommendations of the committee were that 'the Institute of Biological Anthropology be administratively integrated within the Department of Zoology but that it be allowed to retain its own academic identity', 'the Professorship of Biological Anthropology should be filled within the Department of Zoology' and 'that the field of candidature for the Professorship should not be closely defined but that it should fall within' the fields of 'Molecular human genetics, Human evolution/palaeoanthropology and Primatology'.

The similarity in scope of the field with the syllabus for physical anthropology in the Diploma in Anthropology in 1905 can hardly be missed particularly if one recognises that human molecular genetics in anthropology is in many respects the modern approach to considering the issue of 'race'. One can only conclude that the University sees biological anthropology as of very limited and unchanging scope. Many of the twentieth century developments in human population biology, such

as physiological anthropology, auxology, medical and nutritional anthropology and human ecology, have been totally ignored – or at least, not considered worth pursuing. In the world at large they must represent well over half of both the teaching and the research undertaken today in biological anthropology. Time will tell their fate at Oxford.

## Postscript

This paper was drafted in 2002. Since then little of consequence appears to have happened. The Chair of Biological Anthropology has been advertised and attracted considerable national and international interest, although without its being filled. Later two senior biological anthropologists were invited to apply but both turned the invitation down. Since then there has been some discussion as to whether the association with Zoology is appropriate but as of the end of 2006 no decision has been taken and no great concern for the situation expressed. Perhaps it will be resurrected but as of now one can only conclude that biological anthropology at Oxford is dead.

## Acknowledgements

I wish to express my thanks to my wife, Elizabeth, for preparing this manuscript; to the University Archivist, Mr Simon Bailey who not only made early records available to me but was also able to establish the set up date of ‘Supplementary Anthropology’; and to Professor Peter Rivière for many helpful comments.

## Academic Staff – Years in Oxford Office

Arthur Thomson Fellow of Hertford College	Professor of Anatomy	1892–1933
Leonard H.D. Buxton Fellow of Exeter College	Reader in Physical Anthropology	1927–39
Sir Wilfred Le Gros Clark Fellow of Hertford College	Professor of Anatomy	1934–62
Joseph S. Weiner	Reader in Physical Anthropology	1945–63
Derek F. Roberts	University Demonstrator in Physical Anthropology	1954–63
Geoffrey A. Harrison Fellow of Linacre College	Reader in Physical Anthropology Ad hominem Professor in Biological Anthropology	1963–76 1976–94
John J.T. Owen	Lecturer in Physical Anthropology	1963–71
Fellow of St Cross College	Lecturer in Physical Anthropology	1972–96
Vernon Reynolds	Lecturer in Physical Anthropology	1972–96
Fellow of Magdalen College	Titular Professor in Biological Anthropology	1996–2001
Anthony J. Boyce	Lecturer in Human Biology	1972–90
Tutorial Fellow in Human Sciences, St John's College	Ad hominem Reader in Human Population Biology	1990–
Ryk H. Ward	First established Professor	1994–2003

Fellow of Linacre College Nicholas Mundy	of Biological Anthropology Temporary Lecturer in Primateology	1996–2002
Stanley J. Ulijaszek Fellow of St Cross College	Lecturer in Human Ecology Transferred to ISCA 2002 and became Titular Professor in 2004	1999–2004
Rosalind Harding Fellow of St John's College	Temporary Lecturer in Human Genetics Lecturer in Biological Anthropology	2000–06 2006–

## Other Academic Appointments

**Departmental Demonstrators:** D.F. Roberts, G.A. Harrison, D. Jeffries, R.D. Attenborough, C. Panter-Brick, M. Parker, K. Hill, H. Marriott

**Computing Officer: G. Brush**

**World Colleagues who spent at least one term working in the Institute of Biological Anthropology**

### Europe

Elena Godina

Lylianne Rosetta

### Japan

Tai Takemoto

### Australia

David Allbrook

Maciej Henneberg

Les Hyatt

Lenore Manderson

Lincoln Schmitt

Neville White?

### United States of America

Paul Baker

Cynthia Beall

Bennet Dyke

Gabriel Lasker

Jean MacCluer

William Stini

Alan Swedlund

Brooke Thomas

Al Wessen

### **Years of Events**

- |      |   |
|------|---|
| 1885 | Introduction of Anthropology as a Supplementary Subject in Honour School of Natural Science                     |
| 1905 | Establishment of the Diploma in Anthropology  |
| 1927 | Establishment of the Laboratory of Physical Anthropology  |
| 1964 | Diploma in Human Biology replaces Diploma in Anthropology   |
| 1970 | Honour School of Human Sciences   |
| 1976 | Establishment of Department of Biological Anthropology later to be renamed Institute of Biological Anthropology |
| 1979 | M.Sc. in Human Biology established in conjunction with the Diploma  |
| 1990 | Institute of Biological Anthropology incorporated as a full department within the School of Anthropology        |
| 1992 | Honour School of Archaeology and Anthropology   |