Nutrition and History in the 20th Century Conference

Virginia Berridge: Okay thanks very much. Now we are moving to the oral history of the nutrition unit and we've gathered together a number of people who worked in the old unit and also somebody from the new unit. What we suggested to them was that they each spoke for about ten minutes about their memories of the units. We are going to do that in time order, of time when they were in the unit and hopefully there will be a bit of time for interaction at the end. So the first person we are very pleased to have here is Philip Payne. Philip was actually the first Head of the Department, Faculty of Public Health and Policy when I first came to the school, but he tells me that he was in the school in the nutrition unit from 1949 to 1990, so he is going to talk about that.

Philip Payne: My first experience of the MRC - funded nutrition unit under Ben Platt, was in 1949 as an undergraduate vacation experience: and that led to my full employment in 1951. My function in the unit then was as a physicist because tracer techniques using isotopes were at the cutting edge of biological and nutrition research at that time. So soon after the end of the war, it was very difficult to get the kind of apparatus and techniques you needed, by just buying them off the shelf. So for example if you wanted to do work with stable isotopes with a mass spectrometer, you had to build one yourself and if, as I was you needed to use tritium, (radioactive hydrogen) as a label, you had to make your own apparatus for measuring this and preparing samples and because tritium is used in making hydrogen bombs, at that time a lot of the work was still classified as secret. This led to some very disturbing interviews from a gentleman from the nonexistent MI6, when one of my colleagues defected and went off to the other side of the Iron Curtain. But it says something very important about the breadth of vision of Ben Platt, that the unit at that time had activities ranging from applying nuclear physics to nutritional biochemistry, right the way through to assessing food resources of communities of subsistence farmers in developing countries and it also says something about the importance that the subject of nutrition was held in terms of access to funds etc.

For those very basic studies in the field, the first essential was to get some estimate of the nutrients available and the crops they were growing and at that time, tables listing the nutrients present in different foods, were very largely restricted to foods eaten in relatively rich countries. So Joyce Doughty worked in the Gambia and later in the School, compiling data from across the world and making new measurements of nutrient contents and produced I think the first ever tables of food composition for use in tropical countries.

But knowing the amounts of nutrients in separate food items doesn't tell you about how nutritious they will be when they are mixed together and cooked and processed in traditional ways and more obviously food tables can't tell you what the result will be of simply not having enough food to eat, or suffering from some infectious diseases. Ben Platt believed that there was a need for a laboratory based test method, using experimental animals, to study the nutritional qualities of real foods, preserved, cooked, processed and eaten, in traditional ways.

And during the 1960's Derek Miller and I, together with a long succession of visiting researchers and post graduate students, developed a test of that sort, feeding young growing rats and used it to measure the nutritive values of whole diets as traditionally eaten by rural people in more than thirty different countries around the world. These results were compiled together to provide practical guidelines for the design of modified recipes adequate for the needs of nutritionally vulnerable groups like young weanling children.

At this time, that's towards the end of the 1960's, the Nutrition Unit consisted of some 30 permanent staff, on average four or five visiting researchers at any one time. It had its own fully staffed electronic and mechanical workshop, a food preparation room, equipped with small industry scale machinery and animal housing for rats, pigs and dogs. As a matter of interest, to the historians, this was in the building that was specially built for Sir Edward Mellanby's work in the gardens of the National Institute for Medical Research in Mill Hill. We occupied that building shortly after he died.

Up to the end of the 1960' s the most commonly held idea about the nature of the world food problem, was that lack of protein was the common major cause of malnutrition and the rationale for this was that levels of dietary protein considered essential then, were simply based on the amounts eaten by people living in healthy, that's to say wealthy countries. These were seen to be much greater than the amounts of protein consumed by people living on mainly cereal-based diets of poorer countries. So the main objective of the assistance agencies and the main interest of many of the food industries in rich countries was in selling protein concentrates to the developing world, in order to close this ‘protein gap’. But by the mid seventies, this idea was being vigorously challenged. A process some people have described as the ‘The Great Protein Fiasco’. The Nutrition Unit played a very significant part in bringing about this change of view, in the international journals and popular press, we argued the case that protein requirements should be put on a scientific basis and that existing research would justify a substantial reduction in the recommended levels. So in 1971, when both John Waterlow and I, were invited to a joint FAO WHO committee on protein and energy requirements that committee for the first time advised a completely new approach to estimating protein requirements.

A very painstaking study by Erica Wheeler of the daily protein intakes of an exclusively breast fed infant, up to the age of weaning, showed that the levels of protein intake declined soon after birth, to values barely half of those previously recommended for that age group. Finally the animal feeding trials on traditional diets showed that quite small deficits of energy intake dramatically reduce the quality of the protein eaten, emphasising the futility of fortifying diets with high protein supplements, when energy requirements are not fully met.

In retrospect that episode is not just a nice example of the importance of new research being used to falsify an established theory, more significantly it contributed to the demise of a more general view about nutrition and nutrition programmes, namely that national assistance programmes could be similar in design, to programmes aimed to control infectious diseases. Simply identify individual nutrient deficiencies in the food supply of whole communities and then by fortification deliver magic bullets that would cure and permanently prevent

malnutrition. My own interests then moved towards methods for identifying the social and environmental factors that result in malnourished members of families. A policy group was established, including Erica Wheeler, Elizabeth Dowler, Barbara Harris and myself, and that group developed methods for identifying which kinds of households were at high risk of malnutrition and why. These methods were designed to make the best possible use of whatever resources of information and data, a particular government might already possess. This approach was intended to improve the assessment of priorities for nutrition improvement within a given country and also to enable evaluation of the impacts on nutritional health, of regional development programmes of all kinds. Case studies based on this work became an important component of teaching the MSC and diploma course in Nutrition.

We all I suppose ask ourselves from time to time exactly how effective virtually an entire working lifespan has been in making use of research and teaching. I haven't time to say much about that, except for one incident that sticks in my mind. Sometime in the 1980's I was visiting the Head Office of UNICEF and for reasons that I didn't really understand at the time and still don't, I was asked to sit on a group meeting of UNICEF country level programme directors. I did this and there were about 22 people who had been brought in from all over the world to the New York Headquarters. We all sat round the table and when I looked around, out of those 22, 16 were ex M.Sc or Diploma students of this school.

Virginia Berridge: Thanks very much Philip. Joe would you like to go next, you were here from I think 1970 to 1992?

Joe Millward: Yes that's right. I arrived at the school in 1970 with John Waterlow as a research fellow and then progressed throughout the seventies and eighties, eventually being appointed to a readership and I left in1992, to take up the Chair of nutrition at Surrey. So my stint at the school was 22 years. What I want to do is give a little bit of the history and put into the record some of the people that worked at the unit that Waterlow established at the Hospital for Tropical Disease, the Clinical Nutrition and Metabolism Unit. When Waterlow arrived he immediately persuaded the Wellcome Trust to fund a clinical nutrition and metabolism unit. That was built at the back of the Hospital for Tropical Diseases and then once that was up and operating, all of the experimental work in the department and the laboratory animals were moved up to that site. So that the people from Platt's team who were working actively with animals then, Carey Hurd, Red Stewart and Roy Priest and Hilda Shepherd were all relocated with Waterlow's team to this building. This initial team included myself and Peter Garlick both of whom had been Waterlow's PhD students and Philip James, who was with us very briefly, before he moved to the Dunn Nutrition Lab in Cambridge and then ultimately up to the Rowett where he became Director. Philip James's place in 1975 was taken by Andrew Tompkins who was here at the school and worked at the unit until he left to take a prestigious chair at the Institute of Child Health in the early 1990's. There were a large number of PhD students and research fellows at the unit, most of whom obtained chairs or prestigious positions and senior appointments elsewhere; Jenny Payne, Eddie Fern, Mike Golden, Bruno de Benoist, Margaret McNurlan, Graham Clugstone, Jeff Laurent, Vic Preedy and Judy Buttress who is now the Director General of the BNF. The main focus of

our work was nutrition infection and protein metabolism. So we were interested in the metabolic basis of the protein requirements, so our work very much related to the work that Philip has described. This, in my case, reflected by PhD in the unit in Jamaica which had involved trying to understand some of the disturbances in severely malnourished children and I became interested in the role of protein in regulating the growth of skeletal muscle and long bones and how these two were physiologically interrelated, in order to try and understand the nature of the protein requirement. We started with animal models and we were very well funded, we had programme grants from the Wellcome Trust and from the MRC and subsequently I had support from Muscular Dystrophy, from the British Diabetic Association, from the MRC and the Wellcome Trust. It was a very competitive environment, Peter Garlick and myself led separate teams, working on almost the same thing. So out of that competition, which was at times very acrimonious, it was in fact very, very productive and we immediately started producing.... (alarm going off)..... My pulse will come down a little bit now! As I was saying, we managed really a very good output, we started to publish in *Nature* and *Science* and we gave lots of plenary papers at the federation meetings in the US. John Waterlow published his book on Protein Turnover in 78 with myself and Peter Garlick as co authors and that rapidly became a citation classic. This went on for about ten years and at the end of this time, it seemed to me that animal models, especially the rat, were actually not as informative as we'd thought they were, in terms of understanding human protein needs and so we started to work with stable isotopes with human subjects. We had a rather crude mass spectrometer at the unit that would measure N15, but we needed to use carbon 13 labelled amino acids and there was no facility at that time in Western Europe that could do this, and so we started an international collaboration, Mike Rennie who was at UCH, Dave Halliday who was at Northwick Park in John Garrow's unit and some guys in St Louis, who were using Waterlow's methods, to measure protein metabolism in humans with carbon 13 labelled amino acids. Through this collaboration we made studies on human adults and on boys with Duchenne muscular dystrophy and again that was very successful work. It was published in *Science* and in *Nature*. On the back of that work we were able to persuade the MRC to invest in the appropriate machinery to measure Carbon 13 at Northwick Park in Dave Halliday's unit and that started a very productive collaboration, that continued for ten years. We were able to work with preterm infants in London and in Egypt, with the elderly and with normal healthy adult volunteers. Now at that time the Unit was quite important for the M.Sc programme because we taught the metabolic option of that programme at St Pancreas and this involved John Rivers and myself. John Rivers and I had started to write about the metabolic basis of amino acid requirements and this was just before John Rivers unfortunately died of a brain tumour in 1989. But the work had started to influence views on the adaptive nature of amino acid and protein requirements and it started again the debate that Philip had been talking about on just how important animal protein was for health globally, which was a very important political question. We managed to use multiple stable isotope tracers to look at protein metabolism in normal adults fed varying levels of protein and on the basis of this were able to develop and verify a new adaptive metabolic demand model for protein requirements. In fact in the most recent FAO WHO report on protein and amino acid requirements, which Peter Garlick and myself wrote most of it, that model is the basis of that particular report. So it had been a very successful time and this really went up to the end of

the first ten years, into the mid 1980's. But from then on it was all downhill I have to say. It was a struggle and I have to confess I eventually lost that struggle. The mid eighties was a very difficult time for metabolic research in human nutrition, it became very unfashionable, molecular biology was the flavour of the month and after Waterlow's retirement in 83, we had found it very difficult to keep funding flowing. The school was in dire trouble because of Margaret Thatcher's cuts of the education budget and the school had to start charging overseas students the whole fee and that reduced income for a while. Sir John Reid who was Chairman of the board of governors, convened a working party and reported in 1986 that, amongst other things, that the nutrition unit at St Pancras should be closed and all the staff there, including myself, should be made redundant. Philip Payne and I were on School Council at the time and we successfully fought that suggestion and it didn't happen. But in fact the writing was on the wall and by 1990 the school was reorganised into four new departments and those in what had been the Nutrition Department up to then, were split between Clinical Science and the new Public Health and Policy Department. So myself and Andrew Tompkins and Paul Pacey who was then with us, moved into Clinical Science. In fact shortly after that Andrew Tomkins left to go to the Institute of Child Health, I struggled on until 1992, when I was appointed to the Chair at Surrey and after I left, the remaining technical staff were made redundant and the unit was finally closed and sold. So it was a sad end really to a unit which had been astonishingly productive and influential. But I think that the closure of that unit in the early 1990's was in fact a low point for nutrition research in this country and globally the departments at Berkeley and MIT were equally decimated at the time. And in the late 1990's of course the Dunn Nutrition Department was effectively transformed into a unit of molecular biology. And so now of course I think things have recovered, nutrition has recovered its respectability in general terms, it's flourishing again here at the school, new initiatives from the MRC developed in the ashes of the Dunn, and so I think we have moved into a new phase. What is going to happen now of course with the coalition government is anybody's guess. I don't think it's looking good so far. Thank you very much.

Virginia Berridge: Thanks Joe. Now Ann Ashworth Hill who was here from the late 1970s through to 2005 and has also been very helpful in getting this session together.

Ann Ashworth Hill: Good morning. I came to the school in 1978 after working in Jamaica at the Tropical Metabolism Research Unit, which is noted for its pioneering research on malnutrition. My arrival was unorthodox and unplanned. We had left Jamaica in a hurry after being attacked by gunmen and we arrived in London with little money, no house and few possessions. Professor Waterlow was head of the Nutrition Department at that time and knew of our circumstances. He had what was termed as a 'slush fund' and he employed me part time for one month, to teach and tutor the nutrition students. At the end of that month I was employed for a further month and this went on for six months, when amazingly the School discovered it had some money that it hadn't realised it had, and invited all the departments to bid for it. Now the Nutrition Department's bid was for a part time nutrition information officer, and won. Joyce Doughty in addition to teaching, had been assembling

for many years a wonderful collection of information in over 400 large green boxes, on every conceivable nutrition topic and Joyce was appointed to this new post and I was invited to apply for her old job. It's wonderful to have Joyce with us today and not only is she in a way responsible for my being here, by taking over her job, but she is the person who has treasured and built and maintained the nutrition archive over so many years and Joyce we owe you a huge debt of gratitude. Professor Waterlow has had a direct effect on my career from the earliest days and I shall be forever grateful for all that he has done for me. For a while I shared an office with Joyce which was delightful as she was always jolly, and Joyce was wonderful with students and her smiling face would light up at every encounter. Joyce travelled extensively and made a point of meeting former students on these trips and collecting grey literature and other material for her 'subject' and 'country' boxes. Mary Griffiths was another wonderful welcoming person and a source of much wisdom and comfort to staff and students. The MSc was a two-year course at that time and the nutrition students had lab work and animal experiments as well as lectures, and the course was intensive and some of us had very heavy teaching loads. The second year projects required quite a lot of organising, but for many students, this was their first research experience overseas and was an important stepping stone in their careers. I went on to share an office with the charismatic David Nabarro. We made a great teaching duo with me laying the foundations of the topic and he following with his flamboyant artistry. It was an exciting time and when he left I tried to apply his interactive techniques to my own teaching. In Jamaica my research work had involved studies with small numbers of subjects and the big leap for me at the school was the shift to large intervention studies and this required learning new skills and methodologies. My big leap started in 1984 through Richard Feachem, in the Department of Tropical Hygiene. He had been commissioned by the World Health Organisation to examine potential interventions to control diarrhoea, which is one of the main killers of young children. At that time I was doing a huge amount of abstracting work, including for the Tropical Diseases Bulletin and I was very up to date with the literature. Andrew Tomkins thought I could be of help to Richard and introduced me. Richard asked me to check the completeness of his review of breastfeeding promotion and subsequently I offered to guide him to the literature on prevention of low birth weight and to tabulate data from all the studies. This led to a contract for me to take the lead on the interventions that were nutrition related. So these were reviews of prevention of low birth weight, improving lactation, improving weaning practices and growth monitoring programmes. I learned much working with Richard and value the opportunities that arose. He was an excellent manager, both of projects and people, and I admired his writing skills. He was a very organised, very precise and excellent person to work with. The reviews were used by WHO to set policy for diarrhoea prevention programmes and, with PhD students, I went on to investigate some of the research gaps raised in these reviews, including the impact of personal and domestic hygiene education, the impact of zinc supplementation, the determinants of exclusive breastfeeding and methodologies for designing educational messages to improve weaning food hygiene. These studies were the basis for the PhDs for Pat Haggarty, Pedro Lira, Jose Martines and Cristina Monte. Exclusive breastfeeding for six months is a priority target for WHO and UNICEF and with PhD students we tested ways of achieving this elusive goal. In Bangladesh Rukhsana Haider trained local women to counsel mothers at home, and in Brazil

community health workers were trained to provide a similar service. Both studies showed that post natal support is vital to success. In Brazil we also showed that post natal support can be successfully delivered at scale to a population of over one million and we showed that the Baby Friendly Hospital Initiative which most countries depend on for promoting breastfeeding, was not effective. All these studies involved other school staff and especially Betty Kirkwood, Sharon Huttly and Saul Morris and I learned much from them, especially about study design and ways of ensuring good data quality.

During this period my interest in the treatment of malnutrition took a back seat, but it sprang to life in 1990 when Sultana Khanum asked if I would supervise her PhD. She was Director of the Children's Nutrition Unit in Bangladesh and was able to compare the cost effectiveness of three approaches to the treatment of severe malnutrition; inpatient care, day care and weekly home visits after one week of day care. Although the home care group took longest to achieve their target weight, they did so at the lowest cost. This was an exhaustive study and even the smallest item was costed. It was my first encounter with the School's celebrated health economists. If a few basic principles are followed, malnourished children can recover very dramatically, indeed they can be transformed in just four or five weeks. The reality in most countries however is very different; few doctors and nurses know these basic principles and mortality among children admitted to hospital can reach 50%. In 1990 Joe Millward and I frustrated by yet more examples of mismanagement that had ended in death, arranged a small meeting funded by ODA, to see if others agreed that action was needed and if so what. At this meeting David Alnwick of UNICEF argued for three things; advocacy for which documented evidence of the extent of mismanagement would be needed; user friendly guidelines and he suggested packaging treatment into a few memorable steps and dissemination of the guidelines through multiple channels, so that as many people as possible were aware of these things. With CIDA funding, Claire Schofield was employed and each of these actions was implemented. Through literature reviews and questionnaires, Claire documented evidence of outdated practices and high death rates. We packaged treatment into ten steps and we published them, starting with *Child Health Dialogue*, with a readership of over 1 million. Soon after I was invited to join the WHO Working Group on referral care. Our task was to develop very practical guidelines for treating children referred to hospital because of serious infection or severe malnutrition. When the guidelines were completed, I then helped with the development of the WHO training course to improve treatment of severe malnutrition, and I'm fortunate to have been a facilitator for trainings in most regions of the developing world. The link with WHO led to research opportunities for Claire and me to investigate the feasibility and impact of implementing the malnutrition guidelines. Much of this work has been in South Africa and started with a chance encounter with Mickey Chopra, who was an MSc student on the PHDC course. He put us in touch with Professor Sanders of the University of the Western Cape and this collaboration still continues. We have found that the treatment guidelines are feasible, even in countries with few resources, and are effective in reducing mortality, but sustaining success is much more complex than providing guidelines and training, and depends heavily on the functioning of the health system. In a five-year follow up of South African hospitals whose staff received identical training and support, some hospitals performed well with dramatic falls in mortality, whereas others improved but then lapsed. The difference in performance was linked with differences in the

hospitals' ethos, organisation and leadership. Much remains untold, but my time at the school has led to lifelong friendships, which I treasure, both within the Department and in the far flung corners of the world and I feel very fortunate. I have also been the recipient of much help and guidance from others, for which I'm also fortunate. Thank you.

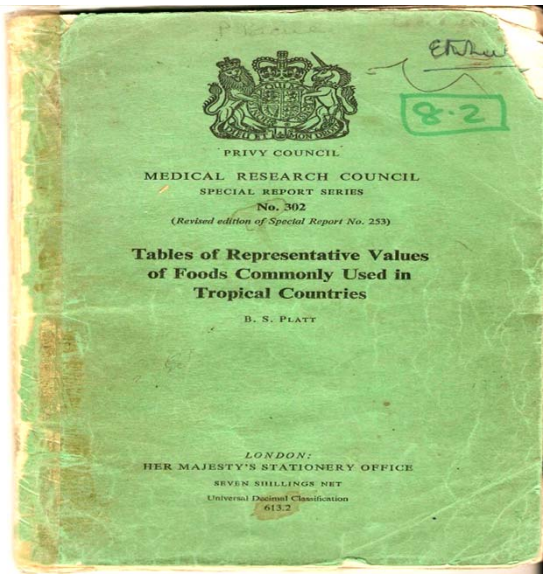
Virginia Berridge: Thanks very much. Now we are going to hear from Liza Draper who worked in the unit in the 80's and 90's, but also has a much longer history in the School as she may tell us.

Alizon Draper: Well I find it slightly embarrassing, my father worked at the School of Hygiene, he was here, gosh after the war in the 1940's and actually remembered in the fifties when Katherine Hepburn came to visit the school on the way to make *The African Queen*, with John Huston. Yes so my first memories were watching Mickey Mouse movies in the old Goldsmith's lecture theatre. But my first memories of nutrition, I mean my memories are slightly different to the others, because actually my first memories of nutrition are when I was a student here and I did the M.Sc in human nutrition as it was then, which I joined in 1985 and then after that I worked for Erica Wheeler, on her study of vegetarians which have been mentioned, in the 1980's. So I was there very much as I say I was a student and a sort of cub researcher but it was the place you know that has had a huge influence on me and twenty five years on, it still sort of influences how I think about things, particularly in relation to nutrition. So this was actually my very first memory, this was literally the lunch party, our welcome lunch on our first day, up in the resource centre, which used to be up on the second floor above the library.

The Human Nutrition Department - the welcome lunch. Photograph courtesy of Alizon Draper

So it was a fabulous year and as we discovered you know we went on as we started with lots of practical sessions in eating and drinking. It was an incredibly sociable course which we all, we absolutely adored it and what this picture also shows is the resource centre, that was put together by Joyce Doughty who is here, and those rows and rows of books and green boxes are an abiding memory and as Ann says, they contained an astonishing wealth of information on a huge range of topics, from malnutrition high income, low income countries. So as students we spent many happy hours rummaging through those boxes looking for

materials for our various coursework assignments and what I loved was how, as well as all this very up to date material, you'd also come across treasures like this, which are Platt's wonderful tropical food tables.



As you can see it's marked 8.2 so it came from box 8.2 in the resource centre that you've just seen and I mean think these are wonderful tables and while they are a bit old now in the methods of analysis, they actually remain one of the few, if possibly the only sets of food tables which contain comprehensive information on the nutrient content of insects. Well you know a neglected food source, you know possibly even more so in the context of climate change. But the department of course was also importantly about the people, so I managed to unearth this slightly murky picture of the teacher.. this was actually a picture of most of the teaching team in the classroom that was just off the resource centre.

Photograph courtesy of Alizon Draper

Just to pick out a few people, I mean there is John Rivers at the front who I think Joe mentioned, who sadly died in 1989, but he was a fantastic teacher, really inspirational and I don't know about you Claire but I can still remember his lecture on the mouse to elephant curve.
(laughing).
Other people who were important, behind, sitting there is Joyce Doughty who put together, who originally put together the resource centre and also you can't quite see her, but behind Joyce is Wendy McLean who also, I guess it would have been after Ann took over looking after the resource centre, which then after her departure, then passed to Edwin, who is a lovely man, you can't quite make him out, but there at the back in the white coat, who had originally worked in one of the laboratories. You can see Philip there standing in front of the window. But the person for me who was perhaps most memorable and who was a huge influence on me and still is and partly because, as I said, I worked with her on the study of vegetarians and then she was my PhD supervisor, was Erica, who is standing there to the left of Philip. You can't see her very well, but you can see Erica better here. I'm not quite sure what Erica, here is a picture of Erica in the field, obviously it looks like it's somewhere in Africa.


Photographs courtesy of Alizon Draper

She was always, an incredibly thorough and meticulous researcher, so it looks a bit like she is doing an inspection tour of the people's latrines. But Erica started life as a dietician which I suppose you could say is a fairly, I don't know narrow clinical training, but she went on to work on this incredible breadth of topics, which I suppose reflects the range of the work that was going on in the department then. So from over about 80 odd publications, I've selected, I'm shamelessly cherry picked a few, just to give a flavour, a sense of some of the work that not only she did, but that was going on in the department. So we have sort of classic laboratory based studies looking at, I mean Philip you will have to tell us why this was done, but looking at the energy content of rat carcases.
You don't want to talk about it now. (laughing).

Well perhaps later. But going through to more metabolic studies, so looking at the effects of work level on mineral excretion in a hot climate, through to I suppose what you might call the classic nutritional surveys, with nutritional status, but on incredibly diverse groups of people. So we've got studies looking at the nutritional status of Savannah peoples, then through to this rather, I always find it a slightly astonishing study that's been mentioned earlier, the diet of seamen on an ocean going oil tanker, then through to civil servants. And also Erica did quite a lot of work, an area that was more policy orientated work and latterly a lot of what she was interested in and wrote quite a lot on, was the topic of food choice and actually a lot of the papers that she wrote on food choice and her critiques of nutrition education were actually incredibly prescient. I still use them now, recommend them to students for teaching and a lot of what she said then actually foreshadowed a lot of later debates and commentaries made about nutrition education and I would say actually some of her papers are still perhaps going to become relevant again today in the light of current changes and possible future policy directions that we might be taken off in. So to go back quickly where I started, I don't want to make the life of the department sound too frivolous because obviously there was lots of hard work going on there, but actually one of the abiding memories was of the parties.

Photograph courtesy of Alizon Draper

So again this is the resource centre and while in other departments, these were actually quite sedate affairs, the ones in nutrition were altogether more lively.

Photograph courtesy of Alizon Draper

Photograph courtesy of Alizon Draper

So we can see her, we've got Joe and Ann having a merry time, and then above them Prof Waterlow above them, it looks like he's having a very merry time. And then some pictures of the right that I managed to dredge up from a nutrition policy workshop held in India in 1982, so you can see clearly this was a very serious academic affair and we've got Philip and Erica at the top and then below them the guy in the middle, that's a very young David Nabarro who Virginia mentioned earlier flanked by Barbara Harris who was an economist in the unit and as you can see a young Liz Dowler. So parties were a great feature but of course the best parties, which many people remember were the annual summer parties held in the garden over the road and they were held, I think it was after the exams that we had the parties?

Yes.

But they weren't just for us because one of the things that was so wonderful for us as students was of course that all of you were there, but also the great and good in the wider world of nutrition also came along, who, we would get to meet on equal terms. So just a few sort of random shots of these pictures, I mean they were quite a sort of event really.

Photograph courtesy of Alizon Draper

So as we can see you know much fun was had by all and they were enjoyed by all age groups. So my memories there are of, particularly of a student, because you are less aware as a student of all the things going on that Joe talked about, was of an incredibly happy time and some wonderful people and yes that are still with me. So thank you.

Virginia Berridge: Thanks very much Liza and finally Suzanne Filteau who is in the current nutrition unit and has been in the school five years and is Professor of International Nutrition.

Suzanne Filteau: Yeah my job in a very few minutes is to convince you that nutrition has a present and a future as well as a past at the School of Hygiene. But one of the things that has been become apparent as I've listened to the history all morning, is how much continuity there is, both in terms of research, you know themes and in terms of the people. In terms of the research themes, I haven't made up my mind whether it's good that we are still working on the same stuff, showing focus and commitment, or it's bad that we haven't actually solved any of these on-going problems that we've all been dealing with. But in terms of the people, I'm very interested in the constant overlap, so from my own perspective, although I sound like I'm an outsider and maybe am, Joe Millward mentioned Andrew Tomkins and he moved over to the Institute of Child Health and I joined him from Canada on a one year post graduate fellowship when he moved there. The fact that I'm still here twenty years later is largely thanks to Andrew Tompkins because I enjoyed working with him. I came from ICH down the road to the school to take up Ann's position after she retired. So there's been lots of continuity in staff. I'm going to be talking about current research but before I do that I just want to mention that we, we do teaching here as well, and the public health nutrition course is alive and well, it's led by Claire Scofield and we get about 25 students a year coming to take that. Okay most of the nutrition research at the school is actually done by the Department of Nutrition and Public Health Interventions and the Faculty of Epidemiology and Population Health. I just want to briefly mention and not to go back to them, but there are other people, because nutrition expands all of health, well I think it does, and so other researchers, for example in the Department of Non-Communicable Diseases Epidemiology are interested in obesity and its associated illnesses and the Department of Disease Control are interested in hygiene and diarrhoea and the nutritional effects of that as well. But in the Nutrition and Public Health Interventions Group, the biggest group is the MRC international nutrition group led by Andrew Prentice and I've got several slides here provided to me by Sylvie Hartsworth from the group, and they are interested in a variety of core themes, nutritional modulation of immunity and infectious disease, micro nutrient deficiencies in poor populations, calcium, vitamin D and bone health and then a more new thing which hasn't been in the history of nutrition bit, nutritional genetics. There's various approaches to these which cross the thing, so they are interested in developing countries, maternal and child health, knowledge discovery, but also translation into practice. This slide is from the MRC group but I think it applies to all the work we do here, which is it goes from basic science through to clinical or applied public health approaches and ultimately trying to translate into policy. And some of the work they do, they are looking at some effects of seasonality and in

this top picture are bits of the Gambia in the wet and the dry season. I think they are supposed to be the same bits but they look very different. Looking at where to use therapeutic foods and there is a map of the Gambia there with a long standing demographic surveillance, which they are now as I say growing into a genetic databank. Another big group of researchers is led by Betty Kirkwood, we don't see many of them here, because most of them are in Ghana, most of the researchers. They have just recently finished an absolutely enormous trial of Vitamin A supplementation of Ghanaian women and I've showed the results here which are between the placebo and Vitamin A group of deaths during pregnancy, all causes of maternal deaths and infant deaths and it's pretty clear after all this work, of I forget how many hundred thousand women, that there was no difference, which you might think would be depressing, but apparently the Ghanaian Government was thrilled to see that because in terms of policy it meant that they didn't have to implement a new and expensive programme, to add to everything else they were trying to do, because clearly this is one that is not going to have a lot of mileage. This is a slide from my own work, I'm interested in nutrition and infection and I'm particularly interested in HIV in women and children and this is a slide from a study we recently finished, which is starting a new area of research, I would say for me, but actually globally, it's just a new area, which is, after all the attention focusing on preventing children of HIV infected mothers from becoming infected themselves and we're doing better on that, it's now become apparent that the HIV exposed uninfected children have problems. We were trying to improve their growth by giving them complimentary feeds or replacement feeds in a lot of cases from six months of age and the solid lines from the top are children of HIV uninfected women fed the two diets and the bottom two lines are from the HIV exposed uninfected children and what you can see is that the diets didn't make a huge difference and that there's fairly significant growth differences between the HIV exposed uninfected and the HIV unexposed children and we think we need to go back and look at maternal health because these kids clearly started smaller at six months. This is one from Alan Dangour and Ricardo Uauy, Alan's work is distinguished by its publications, not only you can see this was *American Journal of Clinical Nutrition*, but he also goes for some slightly more widely read journals and this is from the Daily Mail, showing that in another large trial that they had no effect of fish oil supplementation on cognitive function, older people. This is another bit of Alan's work that got even more publicity and this one is from the Times, which is when he supervised a systematic review last year, showing that there was no evidence of differences in nutrient content or health benefits of organic foods versus their inorganic counterparts. So those are some recently finished research at the school. But in terms of the future, there has fairly recently been a large grant awarded by Leverhulme for a Centre for Integrated Research on Agriculture and Health and I think this is going back to what you said right at the beginning about how the early nutrition research in the school was very integrated and then it kind of dispersed out into little corners and different bits, it seems to be coming back together is the theme and so this is a group of.. a bunch of the Bloomsbury colleges getting together to try to integrate their knowledge of different areas in order to solve particularly problems. So particularly integrating agriculture and health and to improve understanding of global issues and also to improve the tools for assessing problems. So you know the poor alignment between food production and health, poverty traps, etc., and I'll let you read them. So that's all I'm going to say. Thanks.

Virginia Berridge: Thanks very much Suzanne. We've got a few minutes before lunch, maybe those speakers who slipped away would like to come back and we could open it up for some questions or comments from the audience.

Suzanne Filteau: Can I just say that there are a couple of posters of our recent work outside, should anyone want to know more.

Virginia Berridge: Can I ask you something about, a comment I remember the nutrition unit when I was first here and you seemed to be very, it came across in some of the discussions, very concerned about your students and about teaching in a very kind of protective way. I always felt that the nutrition students were a special group in a way, did you feel that?

Philip Payne: You are asking me or any of us? Well I think we had very good personal relationships and it was partly because of the size of the department and the number of people involved, so that we were able to have tutorial groups of four or five students. Every student had a personal tutor as well as study tutorial sessions and it just kind of came about. It is probably very much easier teaching mature students than new undergraduates, so as much as anything, I would say the relationship was influenced by the people themselves who came to take the course. I can't think of anything else on that. We are all very nice people that's what it is!

Joe Millward: If I can just make a comment before Ann, one of the, I mean two things, two comments that I would make is that as Philip said, they were a very impressive bunch of students and teaching them in many ways was very, very challenging. We had an entry set of criteria that enabled us to have people who actually had very little biology in their background, we would have people who were working in FAO as health economists and they thought the time had come to learn something about nutrition and actually my own job was to try and teach the nutritional metabolism and I must say I learned a huge amount about nutritional metabolism in the course of trying to teach the subject. I don't think I was very good at first but it sort of developed and as Philip said we were able ultimately to have very small groups because we had these options and we had the sort of teaching practices that are very rare now. I mean John Rivers and I would together teach five students, all day and we would be able to have the most amazing amount of interaction and it was really quite inspiring, because of the two-way interaction that actually went on. And a lot of what I know, I learned from those students in terms of the interchange of ideas.

Ann Ashworth Hill: I think another thing is the topic itself lends itself to social interaction, so for example not only did we have the party on arrival but we all sailed down to Kew from Westminster and that is still done, to see the economic plants growing at Kew and different staple foods and because the group is so international, it also lends itself to bring and share lunches, so that you could bring your traditional dish. So we learned a lot about foods from other countries and got to know each other that way.

Claire Schofield: Yes I run the course now and I was a beneficiary of your teaching all three of you here, at that time. There have been many, many changes in the school, including the structure of the course, it used to be a two year course and now it's a one year course and there are, much has gone in a sense of our, the rooms and space that we had. So we haven't been able to maintain absolutely everything from those days but we do try to look after our students very carefully, they all have personal tutors and very individual care where they wanted to... and we try to maintain some of the social elements like the lunch and going to Kew and the end of year event. So, so much is there that was in fact and on a positive note we have been subjected to a number of external reviews, two external reviews and we've got absolutely top ratings. So it's a high grade course.

Philip Payne: Can I just add one thing to that, because you've all seen pictures of the archives and the collections of papers and books and you may have wondered why it was that somebody who graduated in physics, should have stuck with this subject for so long and there were a few years at the beginning when I was a bit uncertain as to whether to stay or not, but in the department I could pick up a book called *The Englishman's Food* written by Drummond, I read that and I decided that that is where I wanted to stay. So all of those sort of archive deposits and things had a great deal to do with our own development and our own engagement, as well as all the students that came.

Virginia Berridge: I think it's interesting you mention that point about integrating history. What I remembered about the unit before I came to the school too, was the work of people like Celia Petty who worked on nutrition research as a historical subject but she was actually based in the nutrition unit at the school. So there was a very strong kind of historical culture I think.

Joe Millward: Can I just follow that up with a comment? When I was appointed to Surrey, the teaching was just undergraduates and we had nutrition students and dietetics and because of this keen atmosphere of the history of nutrition that existed here, I thought it was absolutely vitally important for undergraduate students at Surrey, to know about the history of nutrition. So in the first couple of lectures in a course on macronutrients in their first year, I gave them a couple of hours on the development of nutritional concepts throughout the nineteenth century and into the twentieth century and it went down like a complete lead balloon and in fact lots of students complained and said we didn't come here to learn history, what is all this about. And actually I learned subsequently, I was listening to a radio programme on the history of science and the opinion was expressed that the history of science is something that really only those that are trained, are able to really appreciate and that it should only be a postgraduate subject and so it was quite clear to me that these first year undergraduates, especially those who were completely brainless, I mean mostly they were brainless, but some were more brainless than others, it was just very, very confusing to them, the idea that you could talk about phlogiston to somebody that really had no idea about anything, was quite mistaken. So I dropped it and I've never introduced it again at an undergraduate level.

Virginia Berridge: What a shame! It's wrong, you should reintroduce it.
(Laughing).

Virginia Berridge: Any other comments or questions? Yes.

Member of the audience: This is a very brief comment it's just lovely to see so many eminent women in the unit, just so many women in science.

Virginia Berridge: Any comment from our panel?

Suzanne Filteau: I think nutrition has always been a field full of women, which is sometimes I see pictures of eminent discussions happening in the UN or something like that on nutrition and I think where did they find that many nutritionist men!

Philip Payne: Yes I don't know whether it's a record but I think I may be the only Head of Department who has been taken to task by the current members for appointing yet another woman, although I'd gone through a very democratic process of letting everybody see who the candidates were and what they've done and consulted before having the interviews, and the interview panel, when I came back and said well I've done what you suggested, we have this person and immediately the response was, you know the balance in the department has now shifted further than we wanted and we did have quite a number of Muslim male students who are a bit embarrassed sometimes at having women as their personal tutors. So, but it has to do with the preponderance of women and even at that time, in the dietetics profession that went on to do work in the basic nutrition area.

Tim Lang: I hesitate, I'm Tim Lang from City University and I love coming to the school for exactly these sorts of things but I want to pick up actually a juxtapose Suzanne with Philip, because you put up the London International Development Centre (LIDC) stuff which is big thinking agri lifestyle which I completely adore, those that know me, know this is my world. But what I sensed was Philip when you came in the late forties the school was then representing actually one of the hot spots of the 1930's thinking on agri health and you were at that golden age before then, ding, ding, ding, three of the others, it was getting much more sort of, not looking at the mine across the terrain but going down mines, getting very specific, very detailed, utterly brilliant work on processors and here it is, you know you are living not fossilised I'm glad to say history, and here is Suzanne putting up, we are in a time where big thinking and big moving of tectonic plates is going on. That is a comment, but the question is implicit, is do you read it like that? Maybe that's an enormous question.
I certainly read it that that's where the funding is going after all we have just heard this morning that agriculture and health is one of Wellcome's four themes and so I think, I mean I don't sit on the panels that decide where Wellcome's or anyone else's funding is going, but I have to respond to where the funding is and I think that that, there is a shift happening.
But actually that is a very interesting comment, I could go on for ten hours about exactly what you said.

A.N. Another: What comment?

Which is that it's funding led, the agenda is driven by funding. The inheritance that Philip had, as I understand it from the school, from reading the people then, was that it was driven partly by a democratic impulse.
Mm.
A serious democratic impulse, the desire to feed people decently and also it was the, that moment that the school above all represents, which was imperialism. This is an imperialist school, let's not forget it.
I mean and I think that's a shift and I'm not sure the school has found a role for how to deal with the politics of the present until we get suddenly things like LIDC, where the school is acting as a partnership and it's not the school it's the Bloomsbury Group. That I think is a very interesting thing. I think the challenge for you Suzanne is to re-inject the social vision about democracy that Philip's era reflected. But that is a terrible imperialist view from one boring ?, I think we are losing the social side, it's looking for a technical fix, not that wonderful social vision of the Boyd Orrs or the Waterlows.
It is..

A.N. Another: Am I wrong?

Joe Millward: No I think you are absolutely correct and I think it's difficult to over emphasise how entrenched that view of a global world problem that needs solving and how important that view was in the '30s and in fact in 1945, before the war was finished, the Colonial Office, summoned Ben Platt and said we need to find out more about why children are dying in the colonies and it was that meeting and Ben Platt despatched John Waterlow to the Caribbean and then to Africa and he spent really ten years moving around because even whilst London was still, I mean it had stopped, the flames had died down, but we were still in complete dire straits. There were people in the Government that were concerned about global issues of malnutrition and you know it's in very stark contrast to today, with the single exception of the Government's attempts, for example in terms of climate change, to think about how they are going to deal with that in terms of agriculture and food.

Ann Ashworth Hill: And I think there is a parallel there too with the post war era and the millennium development goals now and it's obvious that we have to become broader and think of the social aspects, the environmental aspects, the agriculture, food security and not a very narrow view of nutrition.

Tim Lang: I think that is absolutely, I think that has said exactly what I think too. But that in a sense is a bizarreness, I mean I'm not a historian, those of you who are historians, I think that is a real explanation of, I'm always berating my friend David Smith, who taught me everything I knew about the forties and the thirties generation, I think we need to understand what's going on now, why was that lost, what's happened, what was going on inside the

school that it started going down the mines and lost the big picture, or did it lose the big picture.

Suzanne Filteau: I don't think it happened in the school, I do think it was outside for a long time, I mean Joe mentioned, metabolism, dietetics, old fashioned, who wants to do that, you should be doing molecular biology and genetics and if you are not doing molecular biology and genetics then you're not really doing biological science anymore and so you couldn't get funding for it, the unit closed. But that sort of thing wasn't done.

Alizon Draper: But part of it was also I mean there was also the shift, the interest in protein energy malnutrition what you saw in the eighties was micronutrients and above all Vitamin A. So there was a mini paradigm shift there as well which thanks to Betty's study, hopefully that obsession that Vitamin A is the answer to everything is...

Philip Payne In fact it is also a reflection of not just the area of nutrition, but the whole historical movement since the war. I mean when I got involved in nutrition I was immediately meeting people who had been in the first steps in the establishment of the new and international structure, the UN system was engaging people like Wallis Acroyd for example and right from the beginning with the setting up the nutrition division in the food and agriculture organisation. So there was a kind of historical ....