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VIDEO INTERVIEW TRANSCRIPT

Biles, Brian: transcript of a video interview (26-May-2016)

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Date of publication: 05-Jan-2017

Date and place of interview: 26-May-2016; New Forest Inn, Totton

Publisher: Queen Mary University of London

Collection: History of Modern Biomedicine Interviews (Digital Collection)

Reference: e2017012

Number of pages: 5

DOI: 10.17636/01018376

Acknowledgments: The project management and technical support (filming) of Mr Adam Wilkinson is gratefully acknowledged. The History of Modern Biomedicine Research Group is funded by the Wellcome Trust, which is a registered charity (no. 210183). The current interview has been funded by the Wellcome Trust Strategic Award entitled "Makers of modern biomedicine: testimonies and legacy" (2012-2017; awarded to Professor Tilli Tansey).

Citation: Derrett C, Wilkinson A (intvrs); Yabsley A (ed) (2017) *Biles, Brian: transcript of a video interview (26-May-2016).* History of Modern Biomedicine Interviews (Digital Collection), item e2017012. London: Queen Mary University of London.

Related resources: items 2017013 - 2017022, History of Modern Biomedicine Interviews (Digital Collection)

Note: Video interviews are conducted following standard oral history methodology, and have received ethical approval (reference QMREC 0642). Video interview transcripts are edited only for clarity and factual accuracy. Related material has been deposited in the Wellcome Library.

Biles, Brian: transcript of a video interview (26-May-2016)*

Biography: Mr Brian Biles (1926-2016) served in the Royal Army Medical Corps during World War II before working at the Medical Research Council (MRC) Industrial Medicine Unit at the London Hospital. He went on to pursue a career as an electron microscopist and photographic expert at the MRC Air Pollution Unit, before moving on to the MRC Toxicology Unit, a position from which he retired.

[1]. CHILDHOOD, SCHOOLING AND STARTING OUT IN SCIENCE

I was born in Twickenham, in 1926, and I was in England for a little while before we all went to Australia. My father was Australian, and we went to Queensland, a little place called Macknade, about 90 miles north of Townsville. Nobody's ever heard of Macknade, but it's on the Herbert River, and that was the area we were in. It was largely sugar cane fields, and my dad worked in sugar. I've got a few childish memories of that, but at about five or six, we returned to England. My mother got fed up with Australia; she couldn't stand the heat and she was very English, she didn't adapt well to Australia. At that time of course, I came straight back home to St Margarets in Middlesex, it's near Twickenham, and I started infant school there. I then went to the junior school, St Stephen's School, which was still in St Margarets, though in a different area, and stayed there until I was 11. I then went to grammar school, Hampton Grammar School, and that was a big venture into the outside world, really, because that was at Hampton, and to get to school in the first couple of years there was a train, a special school train called "The Grid", it was a really archaic machine, but it got us to Hampton. It was a very pleasant experience. I came out of grammar school after taking A levels, well it wasn't A levels, it was the higher certificate. I then went to the London Medical School, London Hospital Medical School, for a couple of years, but we had a bit of family trauma, and I came out of that. Because I was out of school, I was called up and I went into the Medical Corps. I went over to Malaya, had a couple of years there, then came out, I had a look at a couple of jobs, and saw an advert for the MRC Industrial Medicine Unit, and applied for that. I saw Dr Harvey, he interviewed me and accepted me, and that was my introduction to the MRC.

[2]. THE HAMPSTEAD LABS: TESTING FOR LEAD POISONING AND DNOC

Hampstead, yes. I was put in a damn great lab all by myself, and I was told to get on with it, well Dr Harvey was very good. There was trouble with a lot of children getting lead poisoning and I managed to develop a method of analysis for reading down to 1 microgram per ml of blood, getting 1 microgram of lead out of that, a dithizone method, and that was published. It was also stolen by a couple of other people, because well, when I said it was published, it was printed, and it was sort of handed out, but it wasn't documented in a journal. Anyway, I was very very pleased with that. I had the unenviable task of having to go to various hospitals and taking needle punctures from babies, getting blood from them, and doing the analysis on them. That was quite interesting, that took quite a while. But at the same time there was, I think that the, most popular toxin in the countryside was DNOC, dinitro-ortho-cresol, and there were farmers all over the country perishing from being swamped in that. Because they used to use these huge sprayers, and nozzles would get blocked up, and the way of unblocking them is to go round, stand in front of them with this still spraying, and whack it with a spanner. And this very often dislodged it, but it also covered the tractor driver in DNOC, and, there were quite a few deaths from that. Then I went into the physics lab with Ted King,

* Interview conducted by Dr Christopher Derrett and Mr Adam Wilkinson, for the History of Modern Biomedicine Research Group, 26 May 2016, at the New Forest Inn, Totton. Transcribed by Mrs Debra Gee, and edited by Mr Alan Yabsley.

and a friend of mine Pete Casbolt, and we were doing electronics and making devices for detecting particles, airborne particles, and that was very interesting too.

[3]. MRC INDUSTRIAL MEDICINE UNIT, LONDON HOSPITAL; TESTING FOR CADMIUM

About 1956, I can't be accurate but it was about that time. And there we had the director Donald Hunter, there was Dr Patricia Bidstrup, and Dr Bernell. Later there was a Prof. McLoughlin joined us. It was quite a big department there, we had a large animal house and we had physics lab and chemistry labs. I was in a little cupboard doing histology most of the time there and we were concerned, then, to a large extent with cadmium poisoning. During the war the cadmium alloy, copper cadmium alloys, the foundries were sitting ducks for aircraft at night, because they used to work 24 hours a day, so all the windows were shut, all the lights cut down, and the fumes coming off the furnaces with the cadmium in were breathed quite freely by the working people there. A lot of them got lung diseases and had cadmium poisoning. So we were very involved with sampling atmospheres in foundries, taking medical histories of the people who'd been working with it, and coming back to the labs and doing a lot of analytical stuff. Our animal house was concerned with the toxicity of the cadmium, and so we did a lot of work with that. So I was doing histology and I was going away on trips to foundries, doing collection of airborne particles, and taking case histories - it was interesting and we did quite a few of those.

[4]. SAMPLING ATMOSPHERES: POST OFFICES AND CATTLE SHEDS

The post office workers were concerned about the amount of paper fibre which was in the atmosphere where they were working sorting letters. So we were going round post offices and sampling the atmosphere for particles.

They were big sorting offices and there were a lot of these brown paper envelopes. They seemed to be very prone to throwing fibres off, and the men were very concerned about this. I think there were some union problems at the same time. We went to several post offices in Cardiff, and we went into Glasgow, and several other parts of the country, and big sorting office in London. And we sampled there, and as you would expect we found lots of paper fibres. And I don't know how it was resolved, from the postman's point of view.

Another time we were asked to sample for, in a cattle shed, with a research, agricultural research establishment down in Weybridge. They asked if I could sample the air in a shed where they kept their cattle. Mostly calves but there were a lot of large cattle. It was a dreadful place to sample, a dreadful place for humans to live and certainly more so for the cattle. The smell of ammonia was atrocious. There were particles from the countryside, and as you would expect, cattle hair, and husks from their food, and lots of things like that. Big range of sample sizes. A lot of them not really respirable, I would imagine, but there were some fine ones as well.

[5]. SAMPLING ATMOSPHERES: LEAD AND ASBESTOS

We were looking for lead particles and/or lead contained in diesel fuel particles. The EM [electron microscope] showed that beautifully. I used to sample in Fleet St particularly, and also went to Bankside and sampled there. There were a lot of techniques for the light, there was the spectral dispersion stuff, there was dark field, light field, phase-contrast for optical work, and the light field and dark field on the EM, and electron diffraction. One or two places we went to for asbestos sampling, and we did some work for, I think, a Unit at Reading University, who were doing some research. They were funded by the asbestos industry, who leant heavily on them, and I think they were rather constrained by what their findings could be. I did quite a bit of work on asbestos, and with the EM you could determine what sort of asbestos it was. We caused a bit of an upset with the asbestos companies when we found asbestos in bottled and canned drinks, beer and stuff, we found quite a lot there were even questions in the House about this, people suddenly became very interested. They would ring me up and say 'Our wine is filtered and we don't know if it's got asbestos in it,' and I said, 'Well send me a crate of 100 and I'll have a look and see.' [Laughter].

Well, they didn't do that, but the people who were filtering the beer had a research lab not far from us at Carshalton and Prof. Lawther and I went and we talked to a fellow there, and he said 'Well it's filtered through an asbestos filter, I'm not surprised it's got asbestos in it. What would you like to drink?' And Prof. Lawther, his ears pricked up, but this fellow went on to say 'Lapsang souchong or Darjeeling?' and that's what we had. [Laughter].

I did have the excitement of sampling for asbestos on the Central line. Camden town I think, somewhere like that. I was standing right near where the train pulled-up and the leading carriage was. And as near to the brakes as I could get, there was asbestos there but that's no surprise.

[6]. AN INTEREST IN PHOTOGRAPHY AND ELECTRON MICROSCOPY

I was interested in photography from a personal point of view, and I went on a course, a local evening class, and an examination course, and I got a City and Guilds - the full technical certificate, did the arty side, and I did the science photography. I was then asked to teach photography in the evenings, which brought in a few bob to help the family. It started off one evening a week, and then it grew. Then I started for a while, I was teaching A level students, A level stuff, and yes, it was quite a good little additional earner for me in the evenings. It's surprising when you're teaching something like that how much you learn. This was very valuable at times from work, doing the photo micrography, there was a lot to learn from that along with various lighting techniques for showing up various types of particles. This of course tied in with the EM as well, there was a lot of photography involved with that, and then all the time, all the graduates in the Air Pollution Unit were lecturing at some time or other, they were coming to me for slides. So I was pretty busy on the photographic and microscopy front as well as the rest of the things.

[7]. MOVING TO THE AIR POLLUTION UNIT

Donald Hunter was coming up to retirement, and Prof. Lawther visited one day and had a talk with him and the various people in the department, and he was sort of picking people from our Unit, because at that moment he'd just moved to the new labs in Bart's. His Air Pollution Unit was expanding and I was doing very comparable work. A lot of the air sampling, two or three of the other people went with me. Jean Peal went…

I went into a nice little lab, it had a photographic dark room there and a really antiquated EM. It looked as though it had just grown, it was a funny little thing. We had that for a year, a year and a half I think, and then we got a proper one called AEI 'EM 6', and that was a joy to use. I went on a course to learn some of that and thoroughly enjoyed the EM work, and it tied in so beautifully with the optical microscopy that I was doing as well. I was doing that with Dr Ellison, largely, and anybody else who wanted samples done. I had all sorts of people who wanted pictures of their little particles and if you're a photographer you're needed by pretty well everybody with all sorts of quirky things. I had some very peculiar jobs to do. We were particularly interested in airborne particles of course, being an Air Pollution Unit. But I remember being confronted with some salmon eggs one day by Dr Tom Nash, do you remember Tom Nash? He was doing some work on freezing living tissue and seeing how well it functioned when it was thawed. But, I think probably the strangest photographic job I had to do was for Prof. Lawther said he'd have a favour done for Prof. Cave who was a Professor of Anatomy at Bart's. He presented me with the penis of a white rhinoceros, and I had to photograph some peculiar little glands at the end of it. [Laughter].

[8]. END OF THE AIR POLLUTION UNIT

My feeling was yes, that the enthusiasm and the interests waned a bit. I was still busy doing quite a lot of photography, but there seemed to be a lack of concentration on any particular sphere. Yes, I was sorry to see that. I think the Government felt that they had done their bit after about 50 years and they had realised that there was air pollution and they were doing something about that. So to some extent that had rather taken our raw materials away from us, and we were, (well for me it was) reverting almost to the industrial medicine sphere, we were picking up little bits and pieces and things We even had some samples of a chap

from Finland come to us. His job was to collect old fluorescent light tubes, and because he only had a small lorry, he would smash them, and he was getting beryllium in his lungs so we had some of that and you can pick that up quite nicely with the electron microscope, you get X-ray emissions from it.

Yes, towards the end, you're quite right, I think the zip went out of the Department and I don't know, I wondered if, I know Dr Ellison wasn't particularly well was he? I wonder if Prof. Lawther was ailing at all, but yeah, it disheartened me to some extent, because there was so much zip in the Department when we started.

[9]. THE AIR POLLUTION UNIT: RECOLLECTIONS OF FORMER COLLEAGUES

Tom Nash I remember very much. He was a very bright fellow, though he doesn't seem to figure in the article that you've got in the book [*Air Pollution Research in Britain c.1955-c.2000*], but because he was a bit of a loner, and he was sort of half at Porton Down and half at Hampstead. Not Hampstead at Bart's.

I didn't have an awful lot of contact with him apart from the salmon's eggs, but I thought he was a very clever, very bright chap. Dr Ellison was another bright fellow, he used to practice deep thinking most of the day, and awake with some alarm at about four o'clock. [Laughs]. If he were asked any question he would give a very sensible, very elusive answer, he was very good. However, he seemed to lose interest in our work on the optical bench we were doing with light scattering collected on microscope slides, and deposited on there with a cascade impacter or something like that. As you know if you collect airborne particles there are blacks and white and greys and this, that and the other. We wanted to try and develop a method to establish the proportion of each of those, and we were getting on quite well, but he seemed to lose a bit of interest in that. We had an optical bench as you know, but what we really wanted was a laser, but they were only just becoming available and we never got one. That would have answered our questions right away.

[10]. MOVING TO THE TOXICOLOGY UNIT

I moved into the EM suite with Dr Dinsdale there, and a couple of technicians. I did a little bit of EM work there, but they were very keen to keep their own hands on the EM, and I did some optical work there and that was quite interesting. But there again, my feeling was that it was a kindness on Tom Connors' part to take me, because I was close to retirement, I was there for about five years and then retired.

Alan Brookes and Jean Peal. Alan worked in a Lung Function Department and did very well there. Jean Peal, I think she was doing chemical stuff. Our paths didn't cross, it was a very dispersed Unit. It was a big Unit, and it had a lot of different areas, and the criticism that we'd had from Donald Hunter about not talking to each other, you couldn't even find each other at the Toxicology Unit.

That was at Carshalton, yes.

[END OF TRANSCRIPT]

Further related resources:

1. Jones E M, Overy C, Tansey E M (eds) (2016) *Air Pollution Research in Britain c.1955-c.2000*. Wellcome Witnesses to Contemporary Medicine, vol. 58. London: Queen Mary, University of London.
2. Tansey E M (intvr); Tansey E M, Wilkinson A (eds) (2016) *Derrett, Christopher: transcript of an audio interview (22-Mar-2016)*. History of Modern Biomedicine Interviews (Digital Collection), item e2016110. London: Queen Mary University of London.
3. Tansey E M (intvr); Tansey E M, Wilkinson A (eds) (2016) *Derrett, Christopher: transcript of a video interview (22-Mar-2016)*. History of Modern Biomedicine Interviews (Digital Collection), item e2016111. London: Queen Mary University of London.