

VIDEO INTERVIEW TRANSCRIPT

## Blackburn, Tom: transcript of a video interview (22-Feb-2016)

**Interviewer:** Tilli Tansey

**Transcriber:** Debra Gee

**Editors:** Tilli Tansey, Apostolos Zarros

**Date of publication:** 30-Jun-2016

**Date and place of interview:** 22-Feb-2016; Queen Mary University of London

**Publisher:** Queen Mary University of London

**Collection:** History of Modern Biomedicine Interviews (Digital Collection)

**Reference:** e2016046

**Number of pages:** 6

**DOI:** 10.17636/01013140

**Acknowledgments:** The project management of Mr Adam Wilkinson and the technical support (filming and production) of Mr Alan Yabsley are 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:** Tansey E M (intvr); Tansey E M, Zarros A (eds) (2016) *Blackburn, Tom: transcript of a video interview (22-Feb-2016)*. History of Modern Biomedicine Interviews (Digital Collection), item e2016046. London: Queen Mary University of London.

---

**Related resources:** items 2016047 - 2016053, 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.

© The Trustee of the Wellcome Trust, London, 2016

## Blackburn, Tom: transcript of a video interview (22-Feb-2016)\*

**Biography:** Dr Tom Blackburn CBiol MIBiol MPhil PhD DSc HonFBPhS (b. 1949) received his degrees from Nottingham and Manchester Universities. He has held C-level executive and senior management positions at ICI Pharmaceuticals plc, Beecham Pharmaceuticals plc and SmithKline Beecham in the UK, and with two biotech companies in the US, Synaptic Pharmaceutical Corporation and Helicon Therapeutics Inc. He has led companies, departments, and project teams that identified and developed novel therapeutics, including several serotonin receptor subtype antagonists (5-HT<sub>2A</sub>, 5-HT<sub>2B</sub>, 5-HT<sub>2C</sub> and 5-HT<sub>3</sub>), galanin receptor 3 antagonist and the selective serotonin reuptake inhibitor (SSRI) antidepressant, Seroxat/Paxil. His passion, based on an extensive knowledge of pre-clinical/clinical drug development and marketing, helps to define strategies and positioning of pharmaceutical products for biotech startup companies. He is currently Founder and CEO of TPBioVentures LLC, a 'virtual' drug development and consultancy company in the US and UK. He has authored over 100 peer reviewed scientific papers, review articles and book chapters and is an inventor on 22 patents. He is President Emeritus of the British Pharmacological Society and a Member of the American College of Neuropsychopharmacology. He is also a Non-Executive Director for Motac Neuroscience Ltd., a neuroscience biotechnology company specializing in Parkinson's disease and cognitive and neurodegenerative disorders.

---

### [1]. BECOMING A NEUROPHARMACOLOGIST: LAB TECHNICIAN IN LIVERPOOL

Yes, I think my first interest in science and biology was, goes back to my school days and the biology teacher. Like many people who go into science, I used to look after the plants in the greenhouse, I looked after the animals, I found all of that very interesting and exciting. And that was one of the subjects I excelled in. I enjoyed, you know, that particular part of my schooling, and I thank the likes of Mr Herald you know for introducing me to biology. Then I sort of followed a career path where I developed into a technician on my career path at Liverpool University.

I have been very fortunate in being involved in so many different neuroscience compounds. I've been fortunate in developing or taking at least 8 compounds into clinical trials for depression, anxiety, schizophrenia, epilepsy. And you know that really goes back to my experimental days, working in the physiology labs at Liverpool University, with Professor R A Gregory, on secretion, and following that a career in the pharmaceutical industry, and subsequently biotech and my own virtual company. The neuroscience aspect in the understanding of the brain, and how animal models can translate into pathophysiology associated with mental disorders, is something that has always fascinated me.

I've been involved in Paxil (Seroxat), I worked on that, the preclinical side for 10 years at SmithKline Beecham. I was involved in the very early days with Diprivan (propofol), doing some of the preclinical work on that compound. We've worked on many of the drugs which are prescription medicines today.

---

\* Interview conducted by Professor Tilli Tansey, for the History of Modern Biomedicine Research Group, 22 February 2016, in the School of History, Queen Mary University of London. Transcribed by Mrs Debra Gee, and edited by Professor Tilli Tansey and Dr Apostolos Zarros.

**[2]. BECOMING A NEUROPHARMACOLOGIST: ICI, BEECHAM PHARMACEUTICALS AND SMITHKLINE BEECHAM**

From Liverpool University I went on into the pharmaceutical industry, ICI Pharmaceuticals, Beecham Pharmaceuticals and SmithKline Beecham. And through each of those major pharmaceutical companies, I was involved in the development of a number of compounds from the bench to the bedside, and was an inventor or co-inventor on many of the patents in those days in the pharmaceutical industry. So this was about 1970 to '99. Now, after that, I moved over to the US and moved to work for a couple of biotech companies where I was head of research and development, and subsequently CEO of one of the biotech companies. And, again, what I brought to those biotech companies was a knowledge of the pharmaceutical industry and how to develop drugs and compounds, which I'd gained through many years, you know, within the industry.

So they were exciting times in the biotech world, which was a very vibrant organisation where ideas, opportunities moved very quickly into clinical development.

**[3]. BECOMING A NEUROPHARMACOLOGIST: CAREER REFLECTIONS**

Yes, my education. I unfortunately didn't go to university. I would have loved to have gone to university, but I had a rather circuitous educational pathway in my career in that I started, I left school with some O levels but I did all of my A levels in science at night school. And following night school, I went on to take various qualifications. I took at City and Guilds qualification too in fact, where I was a senior lab technician. I went on to complete Higher National, then an MIBiol at Stockport College, and then an MPhil at Nottingham University, which then followed a PhD at Manchester University, and then a DSc at Manchester University. So from starting out a career with just a few O levels, and you know the opportunities presented themselves, that if you basically work hard in your career you can basically achieve what you want. There are always opportunities for young people who may think, you know, they've missed out on their O levels, A levels, but there are many, many ways in which your career can advance with hard work.

So yes, there are ways which basically you can improve your career, improve the number of qualifications you gain, and improve your status within whatever organisation that may be, whether it be academia or the pharmaceutical/biotech world. But what you have to consider, there are sacrifices in the sense that during this period I had a full time job, I eventually married, we had children, and all of these factors played, were very important in my career development, because without my wife, without my family, I don't think I would have achieved many of the things I have achieved, because I had their support and their backing during this time.

I think as we move through life there are obviously key people who are important to us in our development who nurture us, who take us under their wing, who basically give their knowledge freely with regard to what we are trying to achieve, as our personal goal in life. Certainly the British Pharmacological Society has played a tremendous role for me in meeting many famous pharmacologists/scientists, who have basically given so much of their lives to developing new drugs, Sir James Black being one of them who was a tremendous influence on my life and how the development of beta blockers, which my wife is actually taking now. So people like Sir James Black, people, the management at ICI, people like Barry Cox, Mick Turnbull, and then I move into the British Pharmacological Society, Norman Bowery, Rod Flower, Ray Hill, the staff, so many good, good people with regard to their passion for the science, their passion for helping young people, bringing young people along in the science. I think that's the thing that I have always tried to bring back to my life.

**[4]. THE BRITISH PHARMACOLOGICAL SOCIETY (BPS)**

As a young pharmacologist I found the BPS meetings so important in my career and my life in both understanding the science, understanding drug development, understanding how scientists think. Many

eminent scientists of the day used to sit and ask questions. Now as others have done in my career, I'm asking those questions with regard to young scientists. And to see young scientists at pharmacology meetings and to see their enthusiasm and adopting many of these new techniques to advance neuropharmacology or other aspects of pharmacology is just amazing, and I think it's a great opportunity, as it always has been, for young scientists within the British Pharmacological Society or other learned societies, to move forward with their careers and gain the knowledge that people like myself have gained over many years.

One of the things I would say to a young scientist coming through, with whatever learned society, is always challenge the dogma. Because here you are standing up in front of your peer group basically explaining your experiment. You know that experiment better than anyone. You know the data better than anyone. So therefore I think it's extremely important, and never be put off by the audience or people around you. Explain it, present the data, and answer the questions. One of my first presentations was in Dublin many years ago when the chairman had fallen asleep because he'd been at the official dinner the night before and perhaps had drunken a little bit too much wine. He'd fallen asleep in my presentation. I finished my presentation and I had to turn to him and wake him up. I was looking around the audience, which was very few, because again it was a Friday afternoon, one of the last speakers of the day, and there was only one person in the audience who put their hand up to ask a question and that was a professor from Edinburgh. And he asked the question and I was so pleased, I was so excited, and I gave him an answer which he accepted, so that was my first presentation to the Pharmacological Society, one that I will always remember and always cherish. And this is what you have to look forward to in the future. Hopefully you have a few more questions and a chairman who doesn't fall asleep.

**[5]. HAS ANYTHING IN PARTICULAR GONE WRONG IN YOUR RESEARCH CAREER?**

Has anything gone wrong? You know I mentioned I've been involved in so many drug developments. I think yes in the sense that some of those drugs I really passionately believed in, unfortunately, for whatever reason, whether it was a toxicological issue, whether the market size was not big enough for the pharmaceutical company, they've been the disappointments. It takes me back to propofol, and propofol (Diprivan) was a compound that was, we were told at the time would only make ~~500~~ [50] million dollars. Yet that particular drug now has over the years, has been so beneficial in so many aspects of life.

So as far as the drugs that haven't made it that I've been involved with, I think that has to be a disappointment in the sense that perhaps the toxicological issues weren't looked at aggressively, that the clinical efficacy of the compound, we failed to show any clinical signs. I think these are the disappointments, but that's what drug research is all about. Basically you have to test the hypothesis, you have to provide the data to allow you to take the compound to the next stage.

So data is extremely important and when you don't have that data to convince senior management that this compound is worth spending millions of dollars on, then I think that's the disappointment; how, where and how you can access this data, and provide that carrot for senior management to take that compound to the next step.

That's one of the disappointments through my history in drug development, is not being able to provide that either preclinical or clinical data, which basically gives the company sufficient drive to move that compound forward to the next stage of development.

**[6]. ANTIDEPRESSANTS AND ANXIOLYTICS: SEROXAT, AND A PERSONAL TESTIMONY**

One of my passions within neuroscience has been the development of antidepressants and anxiolytic agents. One of the compounds I worked on for 10 years at SmithKline Beecham was the antidepressant paroxetine, Seroxat or Paxil as it's known in the US. Now this compound was one of a number of SSRIs, selective serotonin reuptake inhibitors, and it was an advance on what had gone before with regard to our understanding of depression and anxiety. Trying to bring this compound forward was not without its

difficulties within the Beecham organisation, who I worked for, because of some of the side effects associated with anxiety and depression.

So there's still a lot of controversy around antidepressants and the treatment of depression, and whether these compounds actually show any efficacy. But that takes me back to a period in my life where I'd moved to America and my wife and I were looking at an apartment to buy. The lady who was selling the apartment - we wanted a three bedroom apartment - the lady who was selling the apartment to us asked me to sign the contract and of course you have to sign your occupation. So I put something down like neuroscientist and she said, 'I can't thank you people enough.' She said, 'Are you involved in drug development?' And I said, 'Well, yes, I have been.' She said, 'Well, do you know anything about a compound called Seroxat, Paxil?' I said, 'Yes,' I did, having worked 10 years on the compound, but I didn't mention that to her. She said, 'Well, you people have given me back my husband. And he'd been an actor on Broadway for many years, and unfortunately he suffered from depression,' or has been suffering from depression. 'Seroxat has given my husband back to me following treatment with Seroxat. So I can't thank you enough. But will you sign this other contract for me?' So I thought, 'Sign another contract?' She said, 'This is for a two bedroom apartment.' She said, 'I know you want a three bedroom apartment, but this is for a two bedroom apartment and as soon as you walk in you'll fall in love with it.' So my wife and I said, 'Okay, fine.' So we go down, open the door, and walk into this two bedroom apartment, and there before us was a huge window expanse which overlooked the Hudson River and the view of Manhattan and the Empire State Building. So we fell in love with it. So that is one of a number of people that have come to me over the years and said, 'Thank you, as a neuroscientist, for helping me with my depression.'

**[7]. WHAT HAVE BEEN THE MAJOR CHANGES IN YOUR FIELD OVER YOUR CAREER?**

With regard to the pharmaceutical industry and how the pharmaceutical industry has developed during my career, I've seen so many exciting drugs being brought forward by the industry, I've seen so many opportunities lost by the industry, but what I'm seeing today is, I think, a revolution in some of the thinking behind drug development with regard to new treatments for cancer. The gene editing technology, the CRISPR [clustered regularly interspaced short palindromic repeats] and other new advances in gene editing, are revolutionising, or will revolutionise, the treatments for many of the diseases that we're faced with today.

Advances in immunotherapy are again going to have major impact on the treatment of diseases in the future. We're seeing imaging techniques now where we're looking at pathways in the brain for the first time in much greater detail than we've ever been able to, and also to excite those pathways by light with regard to how disease processes or pathophysiology may well play a part in these disorders.

So my early days and the way pharmacology was basically we were using bioassays, we were using pieces of tissue, human/animal tissue, to evoke dose response curves with regards to various neurotransmitters. We were following that particular bioassay science into the brain where we were measuring various aspects of neurotransmission whether they be stimulated by drugs or by using microelectrodes. And all of these things we were building on with regard to trying to translate that work into the clinical situation using EEG [electroencephalography] to look at brainwave patterns in the brain. The sophistication of that now compared to 30 or 40 years ago is just phenomenal. So those areas, PET [positron emission tomography] imaging, is now taking leaps and bounds from the first time the first radio chemical was labelled. So the level of sophistication and how we're opening up the brain now, more, to look inside using the optogenetics and all of these techniques, is where the future lies in that science.

[END OF TRANSCRIPT]

**Further related resources:**

1. Overy C, Tansey E M (eds) (2013) *Drugs Affecting 5-HT Systems*. Wellcome Witnesses to Contemporary Medicine, vol. 47. London: Queen Mary, University of London.

2. Overy C, Tansey E M (eds) (2014) *Migraine: Diagnosis, treatment and understanding c.1960-2010*. Wellcome Witnesses to Contemporary Medicine, vol. 49. London: Queen Mary, University of London.
3. Tansey E M (intvr); Tansey E M, Zarros A (eds) (2016) *Blackburn, Tom: transcript of an audio interview (22-Feb-2016)*. History of Modern Biomedicine Interviews (Digital Collection), item e2016045. London: Queen Mary University of London.