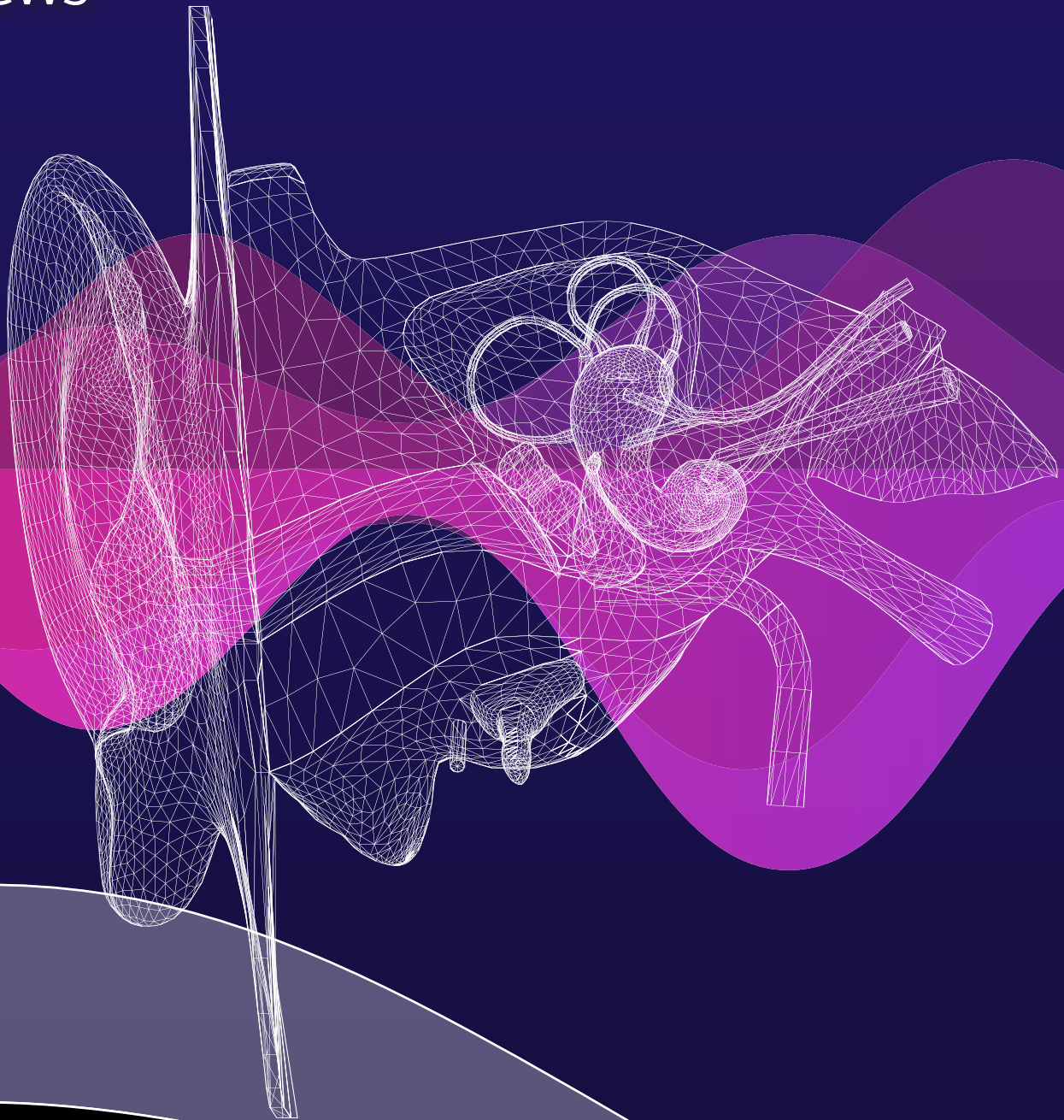


Issue 126/ Summer 2022

# PN

Physiology  
News



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*Delving into the physiology of sensation*

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edition of *Physiology News*

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## Paton Prize Fund: The value of historical research

*Dr David Miller*

University of Glasgow, UK

*Dr David Miller, a recipient of the Prize, will be delivering the Paton Prize Lecture at Sydney Ringer and physiological discovery in its historical context symposium taking place at Trinity College Dublin, Ireland on 1 September 2022. He shares the importance of digging into the life and research of physiologists.*

Understanding how and why any given research was done is a core skill in science. The "Introduction" sections of papers (and theses) often provide context by outlining what had led to the latest study. Beyond that, the broader sweep of research, scholarship and teaching demands insight into key techniques and personalities that are only identified with significant advances.

In 1990, Sir William Paton FRS (1917–93) donated £5000 to The Society, a sum which The Society matched, to sponsor the eponymous Fund. Through the fund, Sir Paton sought to encourage and recognise those key aspects of research. The Paton Historical Studies Fund (The Society, 1990), offers grants of up to £1000 or more to support work explicitly aimed at improving our knowledge of the broadly "historical" aspects of physiology. Paton was particularly keen to encourage better understanding of methodological developments as well as of the researchers themselves.

### The scientific and clinical eminence of Professor Sydney Ringer

Fifteen years ago, I was fortunate to be awarded funding from the Paton Historical Studies Fund for my own early studies of Professor Sydney Ringer (1835–1910). As well as being an eminent physician, appointed Professor of Clinical Medicine at University College Hospital (UCL), UK, it was through his physiological and pharmacological research that he became the father of "physiological saline". Most notably, Ringer was the first to recognise the crucial importance of extracellular calcium for cardiac contraction (and, as it has turned out, for very much more in cellular physiology!).

I spoke about Ringer at the recent unveiling of a blue plaque to commemorate him at UCL (The Society, 2022), where he had spent



Sydney Ringer (centre – pale suit) at his home in Lastingham with friends and family c.1885 (original courtesy of the late Mrs Marjorie Paris. Photo DJM.)

his entire career. I have now been given the honour of delivering the Paton Prize Lecture this year at Trinity College Dublin, Ireland in September. This is part of Trinity's "100 Years of Physiology" celebration..

In tune with Paton's idea, I have sought to reveal how Ringer could focus his research on the key physiological ions, such as calcium, sodium, potassium, etc. and their nearest chemical relatives, such as strontium and rubidium, at a time in the early 1880s when current understanding of the relevant chemical solution of ionic dissociation had yet to emerge. A booklet summary of my work, largely written for a lay audience, was published by The Society (Miller, 2007).

### Wonders found from unravelling the past

Understanding the context in which important discoveries were made is valuable as well as potentially deeply fascinating. And the same is true of digging into the "life and times" of those who did the work. As a result of pursuing my interest, I often found myself in the lovely Dales village of Lastingham, North Yorkshire, UK where Ringer and his family spent holidays and to which he retired.

In 2005, the "Dead Ringer Society's" *ad hoc* meeting saw a group of my cardiac muscle friends assemble there to help clean up the

churchyard and Ringer's grave (Dead Ringer Society, 2005). On an early visit there, I first saw previously unknown photos of "my hero" in the very house he had owned. I can fairly claim to have discovered both the presence of imposing Florentine-stained glass, nearly unique to Britain, that he endowed at Lastingham's ancient church, St Mary's, as well as the reason for it being there. I've been delighted to meet two of his great-great granddaughters and a man who, in 1920, was baptised by Ringer's brother-in-law.

In Norwich, UK, where Ringer was raised, I held a monaural wooden stethoscope that Ringer himself had used. These represent aspects of the "sociology of science" that I never anticipated I would unravel. But the experience has helped form a more rounded view of someone who was previously little more to me and many others than "Ringer (1883) ...". (In my case, those are the very first words in my own PhD thesis of 1973.)

### Paton Prize Fund highlights

I would like to showcase a few other recipients of the Paton Prize Fund. The first is Dr Martha Tissot van Patot, University of Oxford, UK, who researched Mabel Purefoy FitzGerald (1872–1973) (Van Patot, 2015). FitzGerald became a member of The Society at the great age of 100! She had worked with eminent colleagues such as William Osler, John Scott Haldane, Claude Gordon Douglas and Charles



Wooden stethoscope used by Sydney Ringer, given to his senior assistant, Dr Harold Batty Shaw MD, of UCH. (Courtesy of the late Dr Anthony Batty Shaw. Photo DJM).

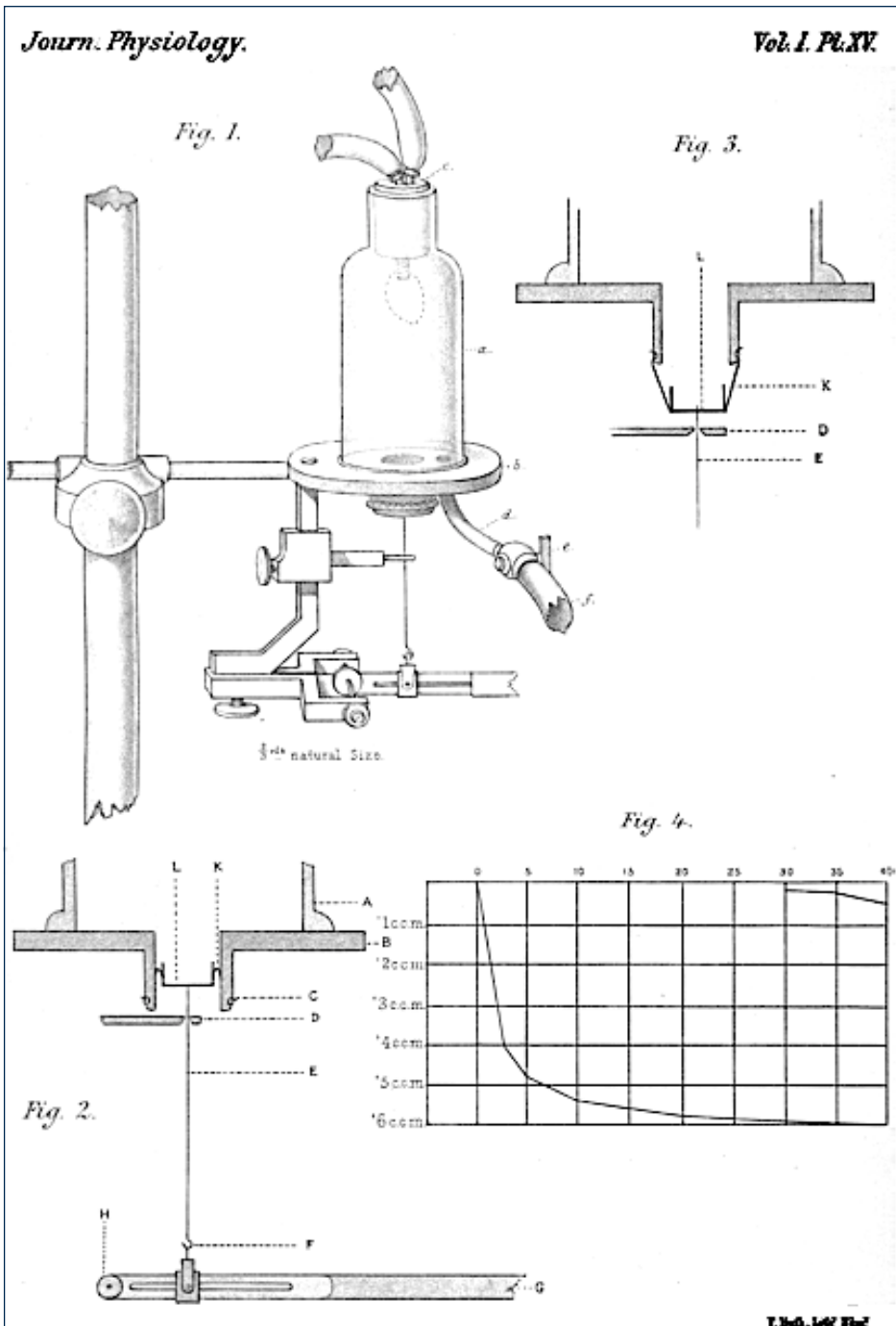
Scott Sherrington. FitzGerald carried out pioneering work on the control of breathing and the effects of altitude.

The second is Professor Oksana Zayachkivska, Danylo Halytsky Lviv National Medical University, Ukraine, very much in our thoughts just now. Oksana researched the life and work of Adolf Beck (1863–1942), an early, eminent cortical and spinal cord neurophysiologist and founder of the Physiology department at the Medical University of Lviv in the 1920s (Zayachkivska, 2014).

I encourage anyone with an interest in researching the historical context of their own heroes or important techniques to consider applying for the Paton Historical Studies Fund. You might even find an unexpectedly well-cited article or two can emerge to burnish and broaden your CV! (e.g. Miller, 2004 - has been cited over 100 times).

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Roy's tonometer - the device used by Ringer to monitor cardiac contraction. (Fig.1 from Charles S Roy, 1879. On the influences which modify the work of the heart *Journal of Physiology* **1**, 452–496)