time to talk to those who work in it. He reflects their lives with clarity and insight so that reading any page or even a paragraph offers understanding and reflection. Describing the birth of the NHS, he recognises the shared and integrated importance of physical and mental health care for both patients and those who work for the NHS.

I thought of highlighting sections to pass on to colleagues but soon realised that every line can be highlighted: *'The NHS is there for when the pattern breaks, isn't it? When the day we expect, the day we are living, Whoever you are, takes a turn we didn't see coming.'*

Based on conversations he has had, Sheers involves us all — medical, nursing, clerical, ancillary, and patient. He uses poetic economy to describe the journey of the NHS through history, using the analogy of the life events we all experience.

While so clearly describing the dilemmas and difficulties in NHS care he pleads openly, powerfully, and effectively for its continuation, although readers will understand more the low morale among NHS workers.

There is an offer of words that might help to improve it: *'You take away too much of the original idea, and you alter the personality … the psychological aspect, the philosophical even, once that's broken … real pain, in my experience, the kind that makes you cry, is psychological … I can tell you how to heal a fracture in a bone but a fracture to a soul? That's harder.'*

At one of his public readings I suggested that Owen Sheers should be Minister of State but he indicated it might be an improbable career move, so, if we cannot have him as Minister, let us have him as the Profession's Poet and aim for his words to have the same level of influence on the further progression of our NHS. In his own words, he is: *'someone who could imagine the journey and in imagining, make it happen.'*

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Leonardo da Vinci: Under the Skin
Michael and Stephen Farthing
Royal Academy of Arts, 2019, HB, 96pp, £14.95, 978-1912520091

A LIFE IN DRAWING

In his intriguing prologue to this beautiful and desirable book, Desmond Shawe-Taylor, Surveyor of the Queen's Pictures, remarks that Renaissance theorists valued drawing as the thinking part of art. In some of the lovely drawings reproduced, and elegantly critiqued by a Professor of Drawing and Professor of Medicine, included in it you can almost hear Leonardo thinking.

As an anatomist and chronicler of the structure of the human body, he is peerless — 'impeccable' barely does justice to his depiction of *The Superficial Anatomy of the Shoulder and Neck* or *The Vertebral Column* — a first in medical history, which has not been improved on significantly since — but the deeper he gets, under the skin, the less sure his touch, the less true to life the pictures become. There would have been major technical obstacles: 'material' for dissection was scarce, and there was no refrigeration. But there also seem to have been major cultural and intellectual obstacles that got in the way of verisimilitude, as Leonardo was constrained by the earlier teaching of Vitruvius and Galen, and also by concerns about public heterodoxy.

Take, for example, the extraordinary *Coition of a Hemisected Man and Woman.* Self-evidently not drawn ex vivo, while Leonardo accurately depicts elements of pelvic anatomy, in other aspects his pen has reflected both his own thinking and the ancient beliefs of Plato and Hippocrates. A structure like a fallopian tube originates, correctly, in the uterus, but finds its way — erroneously, perhaps? — to the breast. There are tubular connections between the penis, spinal cord, and heart, and possibly with the cerebral ventricles. In the first of these 'misrepresentations' was Leonardo graphically hypothesising what we now know about the functions of oxytocin? And, in the latter, was he simply unable to escape the long-held philosophical belief that human seed emanates from the soul or the spiritual part of the body, identified as the spinal cord?

Leonardo was also unable to shake off the ancient beliefs about blood passing through tiny invisible pores in the interventricular septum, despite having constructed a working model of the aortic valve that, if correctly interpreted, would have put him 130 years ahead of William Harvey. His experiments on the structure of the cerebral ventricles of an ox might have led him to overturn conventional beliefs about their function, but he found it too challenging to dispel received wisdom when he had nothing to replace it with.

There is much to ponder, and much to wonder over and enjoy, in this elegantly produced volume. I can't think of a better collaboration than Michael and Stephen Farthing, who are brothers, to dissect the tensions in Leonardo's work between the empirical and the imagined, between myth and reality.

The drawings in this book were part of the Biblioteca Ambrosiana (a historic library in Milan) and were acquired during the reign of Charles II, and are now held at Windsor Castle. More than 200 of these drawings are now on display at the Queen's Gallery, Buckingham Palace, London, in an exhibition called *Leonardo da Vinci: A Life in Drawing* until 13 October.

The show is supplemented by lectures, workshops, and private tours of the drawings, details of which can be found on the Royal Collections Trust website (https://www.rct.uk/).

This exhibition is part of a nationwide celebration marking the 500th anniversary of Leonardo's death. A selected group of 12 drawings has already been exhibited in 11 other cities across the UK, and 80 drawings, the largest group ever assembled in Scotland, will be on show in the Queen's Gallery, at the Palace of Holyroodhouse, Edinburgh, between 22 November 2019 and 15 March 2020.

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