In telling the story of Thomas Willis and the collective investigations of body and brain in 17th-century England with tremendous energy and enthusiasm, journalist Carl Zimmer has written one of the best recent books of popular history of science. The full range of readers will be rewarded by Zimmer’s synthetic scholarship and his evident pleasure in the language of the primary texts. While he owes much to the work of Robert Frank and Robert Martensen in particular, Zimmer has negotiated a vast secondary literature on the major figures of early modern natural philosophy. His decision not to discuss scholarly controversy directly, but rather ‘to give accounts of these people that were consistent with the current consensus’ (p.304) is understandable given the mass market at which he has successfully aimed: yet such a voice would bring a welcome freshness to specialists’ debates.

As if in homage to eclectic early modern works, Zimmer includes a wide range of topics, allowing his narrative to lose focus as he digressively follows biographical and historical threads. Two introductory opening chapters give us the history of investigations into body, nerves, and spirits from the Greeks to Vesalius, and a potted account of the early ‘scientific revolution’ from Copernicus to Descartes. Then he moves to England, weaving multiple narratives of Willis’s life, work, and times, of his colleagues, patients, contemporaries, and rivals – we get sketches of Charles I, Wilkins, Petty, Hobbes, Harvey, van Helmont, Cromwell, Hooke, Boyle, Wren, Lower, Charles II, Anne Conway, More, Locke, and Sydenham, among others – and of the experimental and conceptual challenges facing the ‘neurologie’ and ‘psycheology’ of the time.

Zimmer doesn’t always escape the bane of his genre, the quest for precursors. Phrases like ‘to create a scientific culture’ and ‘relentless attention to scientific detail’(pp.93, 142) are unnecessarily alien in this context: to say that Willis made the brain and nerves ‘a subject of modern scientific study’ (p.240) is unhelpfully to imply that Willis knew what ‘modern science’ might be. But Zimmer is at least attempting something more deliberate with his creative anachronism, for he wants to use his historical eye to tell us something about the present, about our own ‘Neurocentric Age’. Sometimes, when talking Willis up and stressing his foundational role, Zimmer shares in contemporary neuroscientific boosterism: denigrating Locke’s scepticism about ‘the physical consideration of the mind’, for example, he argues that ‘it would take neurologists 150 years to show that Willis was right, that studying the anatomy and chemistry of the brain can indeed reveal the workings of the mind, that they can map the geography of passion, reason, and memory’ (p.255). Zimmer too often writes as if the brain itself alone ‘produces love and sorrow, … composes our thoughts’, and unaided governs ‘everything in our lives’ (p.5, p.264), and his final chapter is a swift impressionistic romp across an assortment of topics in the neurocognitive sciences. <>

But in a more interesting and uncertain tone, Zimmer acknowledges ‘science’s enormous ignorance’ about the brain and its functions, repeatedly comparing the pragmatic but ill-understood benefits of modern psychopharmaceuticals with the hopeful and fairly traditional treatments Willis recommended for his patients’ ills. As ‘a backward-looking revolutionary’ (p.152), Willis retained many of the remedies of traditional Galenic medicine even when couching his accounts of their (limited) efficacy in new chemical terms. Ordinary experience retained an appropriate place in explanation as well as therapy: even when his avowed aim was ‘to alter the corrupted corpuscles of the brain’, Willis ‘did not try to reduce the psychological life to simple mechanics but tried instead to find a pattern of chemical events complex enough to match the complexity of people’s inner lives’ (pp.240, 228). The richly dynamic 17th-century schemes of leaping or wayward animal spirits, nervous ferments, cerebral folds, and distempered thoughts easily spanned the passions, mood, fantasy, and psychological confusion in ways which later, more static visions of the nervous system could not. <>

The breathless heart of the book, however, lies in Zimmer’s rich evocation of the experimental thrill of the 1650s and 1660s when, working through the uncertain times with Lower, Wren, Boyle and all, Willis ‘addicted [himself] to the opening of heads’ (p.174). With a fine nose for the oddest smells and stories from the period, Zimmer takes us through the work on fevers, blood, comparative brain anatomy, and cerebral pathology. He raises, without seeking to answer, some challenging historical questions about the activity of nervous matter, about what room Willis left for the rational soul, and about moral responsibility and self in that earlier Neurocentric Age. His book’s success is well-deserved and can only encourage readers to wonder further about brains and history.

Reviewed by John Sutton, Department of Philosophy, Macquarie University, Sydney, NSW 2109, Australia.