I could say this is a story of two halves but I can’t bear football, so I won’t. Instead I will say that this book is both a narrative about the polio virus (particularly in America), its long history and the drive to treat and prevent it and it is a rich unfolding of the complex and messy tale of medical research. This is an important point as for historians of society and culture (and I am one) who may be put off by graphs and the like (yes I know) this is not a book to skim past because it seems, on the surface, just to provide a detailed history of research into poliomyelitis, and things that begin with CH\(^03\) (I made that up). Yes it does do the above, but it is so much more. Miss this at your peril.

As I began with an assumption about a book with two sides, a bi-narrative if you will, I will carry on in this vein. As Williams says, the story of polio, and more importantly its treatment and prevention, is a long and complex one that is not over yet. The polio virus, or ‘the crippler’, although previously in existence, becomes a menace during the late 19th and throughout the first half of the 20th century. Once under the banner of infantile paralysis, poliomyelitis (now understood to affect adults too) became a focus for concern and then fear as numbers of those infected rose year-on-year. Whilst many can contract the virus, only about one per cent fall victim to paralysis (p. 29). Some die, mainly due to suffocation. With these figures in mind, Gareth clearly shows that this virus caused immense tension and fear in the American populace even though other more dangerous medical killers lurked. This was due, as he says, to the virus causing long-term bodily damage, being indiscriminate and foxing the medical establishment for years precisely when older killers were slayed by the scientists of the day.

The long-term effects of paralytic polio are something that neatly intersects with histories of disability. Here, those with twisted bodies and halting gaits were, ‘even in the civilised United States ... hid[den] away...’ (p. 41). Whilst I would take exception to the unqualified term ‘civilised’ here, especially in light of the ethical liberties taken in this instance in the United States, it was common practice to provide long-term, institutional care for those with disabilities, though it should be noted many children stayed with their parents and it would be unwise to create a simplistic misery-fest history. That said, the author’s aim is not to spend much time in this area, although he does intriguingly recount various histories and also a few personal testimonies in chapter two. Being a fan of all things social and cultural, I would have liked a bit more wrangling with these narratives especially over the iconic iron lung, but it was not the thrust of his book so it...
seems a bit churlish to mention this. This is not emancipatory research and not really about being disabled, and there is no fault in that. It’s about a virus and it’s about medical research. This is what Williams excels at, the stripping down and laying out the complexities of understanding a virus and also the paths that were travelled (period specifically of course) to lead us to where we are today.

After exploring the realities of contracting the virus, he begins to take us through the history of ideas attached to polio; from a belief in it being caused by bacteria, miasma, or poisons from Jamaica Ginger (which shouldn’t be missed), to DDT. Here and there, and this happens throughout, there are a few moments where we see the author amazed at the incredulity of people and some ideas that surrounded polio. Thus, he says: ‘miasma theory flourished in the nineteenth century, even though it had no credibility other than a history which went back to the Middle Ages’ (p. 55). I did want to shout, ‘yes, of course that is precisely why it has so much weight behind it’, or something like, ‘have a read of Foucault’. In my less drama queen mode, it seems to me that he is highlighting to us to the combination of rapid change and the slowness to accept change that is the paradox of medicine. Williams may have some thoughts about this and I would be keen to hear them. The idea of misunderstandings carries on in chapter four where he discusses polio and germ theory. What he does nicely here is show how prevailing hot ideas become seen as a possible route to everything. As he says: ‘the demise of the bacteria supposed to cause polio and beriberi helped to bring down the curtain of the Golden Age of bacteria and the classic germ hunters...’ (p. 87). From poliomyelitis streptococcus (Edward C. Rosenow) to the fabulously named globoid bodies (Noguchi and Flexner) it was a slow process until the notion of a virus was embraced by most.

Even when it was accepted that this was a virus, debate still raged as to its transmission. As an intestinal virus that can enter the blood stream and in severe cases, the nervous system, polio is transmitted via the faecal-oral route (sometimes via coughs and sneezes). However, many views about its transmission were evident and they included exercise, hormones, low blood sugar, animals, insects, immigrants, children with certain characteristics and the like. Williams shows that, Peter Olinksy, under Simon Flexner (head honcho in polio research terms) felt that understanding transmission via the nasal cavity was key. Many poor children were subjected to astringent nasal sprays and many lost their sense of smell accordingly. It was not until 1938 and the work of John Paul and James Trask that the intestinal route of spread was taken seriously. Even when this knowledge came to light, fear was caused due to lack of effective treatments or prevention. Towns and cities took care to shut public buildings and halt public meetings or sprayed DDT (just in case it worked). In some cases, travel was even restricted. In 1952 58,000 cases were recorded in America with 3,000 deaths (p. 217). This is one of the most interesting chapters, as it clearly outlines national differences in approaches to the polio virus. The American fear of polio was heightened through newspapers, cinema, radio and the work of the National Foundation for Infantile Paralysis (NFIP). Under the aegis of Franklin J. Roosevelt it was run by Basil O’Connor. Their aim was to raise funds for polio victims and research. Many donated money through the ‘March of Dimes’ campaign and the NFIP was so successful that it rasied $1.8 million in its first year, rising to $55 million by 1954 (p. 125). But as Williams depicts it, this was a complex organisation who, according to Tom Coleman the head of public relations at Pittsburgh University were ‘slick, arrogant fear mongers, raising money through a campaign of terror’ (p. 133).

The NFIP were instrumental in supporting palliative care for those who had become paralysed but more importantly for this story, they funded research. Through this funding they eventually came up with a vaccine in the 1950s through the work of Jonas Salk and his team (I mention his team, because apparently he didn’t). This vaccine was to be 80–90 per cent effective until it was superseded by the work of Albert Sabin in the 1960s, which has now been replaced with a vaccine that is the grandchild of the Salk vaccine. This is where it gets interesting, as Williams clearly lays out the inner workings of the world of research, showing Sabin and Salk were at logger-heads:
Dear Jonas [Salk]

This is for information [a letter demanding that his vaccine be withdrawn as it was dangerous] so that you’ll know what I am saying behind your back. This incidentally is also the opinion of many others whose judgement you respect.

‘Love and kisses’ are being served up.

Albert [Sabin] (p. 201)

I can only imagine Williams’s feelings when he found that gem, mine would have run along the lines of cackling whilst trying furiously to be quiet in the archives.

This is where the second narrative of the book takes over and for me, as a social and cultural historian, it becomes really interesting. What the author does, and he does it really well, is show the reader just how messy the business of medical research is. In many ways this second narrative is not showcased as the star of the show, and it should be, as I think it really adds to our understanding of the history of medical research. Let me run down what he shows us: the control of the NFIP on research funding, which affected which avenues were explored (no change in terms of general funding there then); the control over approaches, publication, and peer review by men such as Flexner and the many blind alleys that that led to; the huge egos and childishness of researchers like Sabin and Salk; the petty rivalries that ruin careers and the friendships that boost it; the issue of business and money, and more especially the pharmaceutical firms needed to create vaccines, of which the Cutter Pharmaceuticals debacle is particularly interesting; the fear and tension of a populace and the state creating stress on the researchers; the corners cut in research for a myriad of reasons; the impact of media on clinical research and the interesting process of peer review before letting the public know (or getting slammed in academia); the use of medicine as popular theatre and here I am thinking of Paul and Trasks’ use of monkey trialling in epidemic zones; and also the drive to just get there first, as evinced by Williams’ use of the term ‘germ hunter’, which was no less true of those who hunted for a vaccine.

Here I would pause a minute and whilst I bask in all the lovely messy business of science which has less to with test tubes and more to do with politics, economies, society and culture, it is clear that it also has to do with gender. When I see the term ‘germ hunter’ I am transported to the notion of the masculine heroic ideal or imperial adventurer, and I was thinking about how a foray in the study of contemporary masculinities would have affected the author’s reading of what occurred. I think this is also interesting in the issue of ethics, which crops up from time-to-time in this book. From forced spinal drainage (shudder), nasal sprays, to testing on human subjects, it is clear it wasn’t illegal, but it wasn’t necessarily viewed as ok either. Williams does step a toe into this arena, mentioning the appalling Tuskegee syphilis trials, the hepatitis trial at Willowbrook School (children eating one another’s faeces) as well as the polio trials at The DT Wilson Home for the Crippled Children and Polk School (for those with ‘mental retardation’). In this sense was there an element of risk-taking that vaccine hunters were able to embrace because it served a utilitarian or neoliberal world view, was it because those who were disabled, black or prisoners were not thought to warrant treatment on the same level as their fellow Americans or was it because they wanted to be heroes and they thought choosing these people was less problematic?

For me this second narrative is the most exciting area of this book, Gareth’s ability to reflect on the messiness of it all. There is no nice, neat linear path to positivity and the death of the polio virus. Indeed, between 1965 and 1985, 8 to 18 people per year contracted the Vaccine Associated Paralytic Polio virus in America, and today between 250 and 500 still do throughout the world (p. 274). As he ends his work Gareth reflects on the anti-vaccinationists whether through religious or political reasons, fear or just disbelief and what comes into even sharper focus for me is that, like that much used catch all phrase ‘the state’, medicine
is not a thing, it is people and that doesn’t make for simplicity, clarity or logic.

Finally, I would say this is a really great book for all the obvious reasons (these include diligent and clear research, and a clear narrative of the history of polio) but it is also great because it tells you about the reality of medical research. In short, I want to give it another title. I’m not sure my version does it justice but it does alert readers to the important contribution this book makes to our understanding of the myriad of things that shape medical research, of which laboratory-based science is only a small part.

Paralysed with Fear and Strangled by Research: the Story of Polio and the Disordered Realities of Medical Research.

The author is happy to accept this review and does not wish to comment further.

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