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Possessed by the Idols

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- *Bad Medicine: Doctors Doing Harm Since Hippocrates* by David Wootton

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Historical progress is back, even if it was only in some genres of academic history that it ever went away. It's been some time, certainly, since historians of art saw painting as a triumphal progress from Titian to Tracey Emin, or historians of music celebrated a linear ascent in compositional quality from Bach to Birtwistle. It was, perhaps, in political history that historians first recognised their job to be something like interpreting the past in its own terms, warning themselves against the tendency to award points to past actors insofar as their thinking anticipated the present. What Herbert Butterfield in 1931 called 'the Whig interpretation of history' counted as much as a prescription of what historians should avoid as a description of how history had been written in the bad old days.

However, Butterfield's one foray into the history of science – *The Origins of Modern Science: 1300-1800* (1949) – was a triumphalist performance, and George Sarton, the founder of the modern academic history of science, spoke for many of his contemporaries when he wrote that 'progress has no definite and unquestionable meaning in other fields than the field of science.' Science was not just progressive itself: it was the source of all other progressive tendencies in civilisation. Who could doubt it? The progress of science was evident not only in its ever increasing depth of understanding, its power of explanation and its ability to predict, but in the applications that flowed from it. If technology was progressive, then its progressiveness must arise from its changing scientific basis. But historians of science followed Butterfield's preaching more than his practice. By the 1960s and 1970s, most of them had come to consider

progressivism and presentism as professional sins, and embraced what anthropologists called ‘charitable interpretation’.

This left them exposed, both to scientists, many of whom – if they thought about history at all – thought that history’s vicissitudes had led us out of the dark past into the bright present, and to the laity, whose engagement with scientific knowledge was typically slight but whose experiences with science textbooks enshrined the general idea of its linear progressiveness. What ‘everyone knew’ about the history of science was precisely what academic historians no longer knew, or, at least, what their writings were no longer predicated on: science progresses, and its successful applications are powerful testimony to that progress. Indeed, it is the applications of science that have the strongest grip on lay imaginations and seem to offer the most powerful proofs of progress. Take medicine. If what you want is a long, healthy and pain-free life, you would not choose to live in any time other than the present or in any part of the world where there aren’t a lot of doctors around. Accept that health, long life and the mitigation of suffering are the results of medical intervention, and that medical progress is the upshot of scientific progress, and you have no better testimony to the progress of science.

Academic historians of medicine didn’t – with rare exceptions – criticise the idea of medical progress so much as fall silent about it, seeing their job as something other than its documentation and celebration. So they were vulnerable to anyone who reckoned that this was just what they ought to be doing. In recent decades a gap opened up between professional medical history and the sort that tended to be written by practising or emeritus physicians, many of whom saw little point, and perhaps some lese-majesty, in ‘charitable’ history. It is a surprise that a strident assault on anti-triumphalist history of medicine should come from a historian not previously known for his interest in the subject and taking his information overwhelmingly at second-hand from specialists, just like Butterfield writing his only history of science. It is still more surprising that it should come from David Wootton, an early modern intellectual historian whose 1983 study of Paolo Sarpi, a late Renaissance theologian, concluded by cautioning historians not to act as a ‘jury’.

There are two stories folded into Wootton's *Bad Medicine*: one concerns the reality, nature and dynamics of medical progress; the other explains why his colleagues have been derelict in their duty. Medicine has progressed, and historians have either wilfully conspired to ignore that progress or been duped into denying it. Wootton's target of choice is Roy Porter, who wrote that 'only the most dyed-in-the-wool Whig history still polarises the past in terms of confrontations between saints and sinners, heroes and villains.' Wootton is happy to acknowledge that his book 'is written against the grain of contemporary historical writing' and that the identification of heroes and villains is just what he's about – and just what medical history ought to be about.

Wootton advertises *Bad Medicine* as an account not of medical progress but of failure, and, while he makes an oblique attempt to distinguish between the two, it isn't possible: if you want to describe and explain medical failure, then you have to have some notion of medical progress. Wootton does: 'For 2400 years patients have believed that doctors were doing them good; for 2300 years they were wrong.' They were wrong because, until quite recently, doctors could do little for a compound fracture of the leg; because any operation for appendicitis was very likely to be lethal; because nothing in physicians' pharmacopoeia did much to relieve the pain of gout; because phlebotomy – periodically taking a pint or so of blood from your veins – did not alleviate any of the legion of ailments for which it was routinely prescribed; because mercurial drugs mainly damaged rather than improved your health; because there were no antibiotics to treat infectious bacterial diseases; and because there existed no adequate and systematic statistical assays to assess the effectiveness of *any* medical intervention. That's to say, medical therapies did little good, and may well have done much harm. And then it all changed. Medicine now 'works': Wootton sees no reason to qualify the claim or to mobilise a mass of evidence in its favour. So progress must be acknowledged, but failure must be specially explained.

Wootton's assessments are not novel. The Harvard biochemist L.J. Henderson was supposed to have remarked that it was only sometime 'between 1910 and 1912 . . . that a random patient, with a random

disease, consulting a doctor chosen at random, had, for the first time in the history of mankind, a better than 50-50 chance of profiting from the encounter'. On Wootton's account, you have to wonder why people consulted physicians for several millennia, or why the medical profession even existed, since we can now so clearly see that doctors hurt people more than they helped. According to Wootton, doctors adequately justified their existence only with the 19th-century rise of antisepsis and the germ theory of disease, and with the appearance of sulpham drugs and penicillin in the 20th century. Other innovations helped, but these were the main 'benefits to mankind', and they were all remarkably recent. He's even more willing than Henderson to put a precise date on when 'bad medicine' finally became 'good': 'Modern medical science began in March 1865,' when Joseph Lister demonstrated antiseptic surgery, marking 'the moment when real progress first began in medical therapy'. And by 1950 medicine 'had acquired a genuine capacity to extend life'.

Wootton knows all this because, first, he knows that in the 19th century medical science – in particular, the germ theory of disease – was finally connected to medical therapeutics, and, second, because the medical profession has now embraced a method rigorously to determine therapeutic efficacy. The process started with mid-19th-century statistical metrics: for example, Ignaz Semmelweis's quantitative assessments of the conditions for the transmission of childbed fever and John Snow's epidemiological surveys of cholera mortality in London houses served by different water supplies. But its triumph is the practice of so-called Evidence-Based Medicine: a much ballyhooed, and much contested, set of statistical techniques developed from the 1970s to assess the relative efficacy of different therapies.

So why did medicine remain 'bad' for so long? It wasn't, Wootton says, solely for the want of biological and physiological knowledge. In some cases, physiological knowledge was just no good – for example, the Galenic humoral theory that underwrote the practice of bleeding – but in other cases physicians failed to connect adequate knowledge and technology to the possibilities for therapeutic change. Once the microscope was invented around the turn of the 17th century, it

should have been – in Wootton’s view – a short step to a germ theory of disease, and thus to effective remedies for infectious diseases: ‘An intellectual revolution that should have taken place failed to occur.’ Had the significance of 17th-century microscopical observations been properly appreciated, ‘there would have been no need to wait until the middle of the 19th century for the revolution in medicine from which we still benefit.’ Instead – in a constantly repeated phrase – ‘medical time stood still or even went backwards.’ Why? Because the microscope was treated not as a tool for medical investigation but as a toy for commercial exploitation. And physicians prepossessed by existing theories, their vision obstructed by professional blinkers, permitted this golden opportunity to pass them by. As was their habit, doctors were willing victims of Bacon’s ‘Idols of the Theatre’: the tendency to defer to authority and tradition and not to recognise the evidence in front of their eyes.

The germ theory of disease was not, Wootton insists, an unthinkable thought in the 17th century, and he’s turned up several early modern anticipations of it: a 1647 text by Giovanni Nardi, which ‘nobody has bothered to read’, expressed something Wootton sees as very similar to the 19th-century germ concept. Of all people, why didn’t William Harvey – who knew of this text – see the point? That’s simple too: Harvey ‘had radically misunderstood Nardi’s argument because of a fundamental ambiguity in Latin’ – the English for the Latin *semen* could be either ‘semen’ or ‘seed’. ‘Seed’ was the correct reading – the one which Wootton sees as an anticipation of a bacteriological entity – but Harvey’s Latin was, unfortunately for human welfare, not as good as Wootton’s. Felix Platter was another anticipator, formulating in the late 16th century ‘a sophisticated germ theory of contagion’ *avant la lettre*, but his work too has been shamefully neglected by historians. This ‘can only be’ because, Wootton bizarrely asserts, ‘the intellectual origins of modern medicine remain a relatively unexplored field.’

Scurvy gives him a further opportunity to document doctors’ obtuseness and to redistribute historical prizes. The medical profession was ‘responsible for almost all’ of an estimated two million deaths from scurvy between Columbus’s voyages and the mid-19th

century. The effectiveness of lemon juice as a prophylactic was well known to sailors and to the great trading companies, but physicians opposed it because they 'were convinced that this disease, like every other, must be caused by bad air or an imbalance of the humours . . . This is a remarkable example of something that ought never to occur, and is difficult to understand when it does . . . Bad knowledge drove out good.' The naval surgeon James Lind continued to advocate bleeding; he failed properly to anticipate the 20th-century randomised clinical trial; and, even when he did come to realise the important role of citrus in 1747, he 'had no clear understanding of exactly what it was that he had discovered.' Historians now give Lind credit for discovering the citrus preventative, but he doesn't deserve it: 'He actually deserves to be left in obscurity.'

Wootton's prize-giving formulae are sometimes more subtle. Lister wins the medal for founding modern scientific medicine, but Wootton feels it necessary at the same time to explain why Pasteur and Koch do not merit it, and why historians have been wrong to give them credit. While Lister's antiseptic interventions immediately saved lives, Koch's later discovery of the anthrax and tuberculosis bacilli did not result in quick 'pay-offs' for 'mainstream medicine'. Similarly, Pasteur's discovery of vaccines against anthrax and rabies stimulated confidence in the medical power of bacteriology, but both were rare diseases among humans. Historians have made Lister into a disciple of Pasteur, but their story is 'plain wrong', the result of careless reading of historical documents – including one in which Lister explicitly credits Pasteur – and their wilful attempts to 'destroy the notion that there is a straightforward logic of discovery: that one discovery leads almost automatically to another'. Wootton insists that there is such a logic, and that is why we must see the torch being passed in temporal order from Lister to Pasteur and Koch.

So the obtuseness of past physicians is more than matched by the obtuseness of such modern medical historians as Roy Porter and his colleagues. But, in the case of the historians, Wootton thinks that something more than stupidity and shoddy scholarly standards is at work. These historians are 'relativist' and 'postmodernist' progress-deniers, infected by Foucault's French disease and

unjustifiably impressed by work emerging from the medical profession itself, which questioned the contributions of medical knowledge and therapies to the historical extension of life. Just as it was fashionable for 17th-century physicians to follow Galen instead of solid microscopical evidence, so it is now fashionable for historians of medicine to oppose ‘the discussion of progress’. They, too, are possessed by the Idols. Wootton does not offer any account of how he alone has been able to slip the surly bonds of historical fashion, but presumably the fact that he is not a medical historian at all has something to do with his ability to fly so free and see so clearly.

Bad Medicine bluntly rejects the conventions that make up what professional historians now see as proper procedure. Wootton challenges his academic colleagues to an intellectual fist-fight, and they will surely oblige. Yet his provocation also deserves a more reflective response. Academics could make a better case that *Bad Medicine* isn’t bad history so much as not history at all. It isn’t set in stone that you can’t write progressivist narratives. Academic history is now, and probably always has been, just a fraction of the history that gets written, published and, above all, read, and its sensibilities don’t usually extend very far beyond university settings.

Progressivism and celebration are, therefore, closer to the norm than charitable interpretation. Celebration has its functions and its constituencies. Historical legend can, for instance, give you confidence and make you feel good, even though different myths support different communities’ feel-good factors. For the most part, academic historians – unlike social scientists – don’t seem to reflect very much on why they do what they do, but, if they did, they might say something like this: first, if you want to understand the past in its own terms, it’s not very constructive to start out by awarding prizes and assigning blame; second, if academic historians aren’t committed to understanding the past in its own terms, then no one else is very likely to do so. So far as I can see, there’s no ‘logical’ flaw or ‘fallacy’ involved in writing celebratory – or, for that matter, accusatory – history, but if you’re an academic historian and that’s what you want to do, you might consider another way of making a living.

That said, what view should one take of medical progress? It would

be as foolish globally to deny it as Wootton is globally to assert it. Progress is at once real, patchy and problematic. It's undeniably real for the appendicitis victim, and for those suffering from a wide range of other conditions. You're better off now than you would have been if you have a heart attack in the streets of London or Boston – though possibly not so much better off if you live in the *favelas* of São Paulo. And you're much better off now if you have a septic toe and effective access to antibiotics. All this, and much more, testifies to genuine and substantial medical progress. Much modern medicine cures, prevents, alleviates and palliates – so fulfilling basic human wants – but it's highly problematic to identify these successes as the cause of the vast extension of human life and reduction in mortality we have witnessed over the past three centuries. In 1976, the epidemiologist Thomas McKeown argued in *The Role of Medicine: Dream, Mirage or Nemesis?* that improvements in diet and housing and changes in human behaviour were far more important in the historical improvement of health, the expansion of population and the decline in mortality than any specifically medical interventions. People who had previously succumbed to infectious diseases became more resistant to their ravages and lived in settings less conducive to their spread. 'The health of man,' McKeown wrote, 'is determined essentially by his behaviour, his food and the nature of the world around him, and is only marginally influenced by personal medical care.'

Wootton seems in at least two minds about McKeown's thesis: in one place he concedes that McKeown offers 'the best explanation we have' for the 'revolution in life expectancy', but in others he groups him with Foucault as a notorious progress-denier, and says that the moment when his ideas were taken seriously is now past. Yet there *are* serious debates over what portion of increased longevity can legitimately be ascribed to medicine. There are debates over how much 19th-century public health interventions owed to medical knowledge: some sanitary reformers, including Florence Nightingale, were – as Charles Rosenberg has shown – vehemently opposed to anything like a germ theory. And debates continue over the contributions of medicine to life-extension in the last half-century or so. The McKeown thesis has taken some palpable hits, but it remains

very much alive and well. And, given Wootton's commitment to the global celebration of medical progress and its effects, he ought to be unambiguously against it.

What of diseases whose incidence is now increasing? If medical success is established by the sufferings we are no longer afflicted with, how should we account for the vast increase in, for example, type-2 diabetes? While technologically enabled dietary abundance, and, especially, an abundance of refined carbohydrates, is the most probable cause of the modern 'diabetes epidemic', doctors have been in the vanguard of policy debates over what can be done to prevent it, and none of their recommendations has, so far, had any noticeable effect in slowing its spread. That is, they've failed – failed as public health advocates in the same framework that allows one to say that John Snow's surveys of cholera mortality succeeded. Treatment for diabetes is a lot better now, but there's a lot more of it to treat. There is also the class of 'iatrogenic diseases': those caused by doctors' interventions. Sufferers have included victims of the over enthusiastic use of X-rays in the early 20th century; the hundreds of patients at a New Jersey lunatic asylum in the 1910s and 1920s who had their teeth pulled out and large chunks of their guts excised, with a mortality rate approaching 40 per cent (courtesy of Dr Henry Cotton's 'focal infection' theory of mental illness); and all those with arthritis, yet to be counted, who may have had heart attacks as a result of taking COX-2 inhibitors, which passed through the modern world's best screening procedures. It's possible to make too much of modern iatrogenesis, but if one is serious about drawing up a balance sheet, such cases can't simply be ignored.

More to the point is the class of diseases doctors now treat – with more or less success – that did not exist in the past. I don't mean diseases like Aids, whose causative agent is a new thing in the world, but the category of chronic diseases whose recognition as such, and whose status as appropriate objects of medical care, are of recent vintage. If you want to argue for medical progress, you really should take some account of the changing population of ailments the physician is called on to treat. In this respect, the most interesting diseases are the rapidly increasing class whose main manifestations

are psychological but whose underlying causes are now widely presumed to be somatic, or, at least, to be amenable to pharmaceutical intervention: attention-deficit hyperactivity disorder, social anxiety disorder, myalgic encephalomyelitis (or chronic fatigue syndrome), seasonal affective disorder, bipolar disorder, post-traumatic stress disorder, narcissistic personality disorder and the various species of depression catalogued in the current edition of the American Psychiatric Association's *Diagnostic and Statistical Manual of Mental Disorders*. (There used to be another name for 'erectile dysfunction', but in general you didn't consult a doctor about it, and you definitely didn't get a prescription for Viagra to 'cure' it.) In the 1960s, Valium became the most widely prescribed drug in America, and physicians now spend much of their time writing slips of paper for drugs like Valium and Prozac. Roy Porter opened his massive history of medicine, *The Greatest Benefit to Mankind*, by observing that 'these are strange times, when we are healthier than ever but more anxious about our health.' If we are indeed well, we are more and more the 'worried well', suitable cases for medical treatment.

Wootton makes his case for global medical progress by equating medicine with therapeutics and then assessing therapeutic efficacy by approved modern standards. That's what makes it so hard to understand why on earth – if he is right – we've had doctoring with us for all those centuries when it did no good. But there's a rather large historical mistake involved in any such equation, and this mistake has a knock-on effect in any serious consideration of whether, or how, medicine 'works'. Traditionally, the physicians' role was divided into three parts: they counselled how – given your constitution – you ought to manage your life so as to preserve health and avoid illness (regimen or dietetics); if you got ill, they told you what was wrong with you and what was likely to happen (diagnosis and prognosis); and, finally, when you were ill, they sought to do what they could to restore you to health (therapeutics). That is why Porter emphasised that 'the prominence of medicine has lain only in small measure in its ability to make the sick well. This always was true, and remains so today.'

Patients in the past were not stupid: as Wootton himself notes, they were often sceptical of physicians' ability to cure them. A doctor could advise, explain, predict and do his finite best to help. But, if people were financially able to do so, they continued to consult doctors, and it's reasonable to infer from this that they felt they were getting value for money. Expectations of cure might have been low, but expectations of meaning, attentiveness and engagement with the individual patient were much higher than they are now. Both cure and meaning should be involved in any historically significant judgment of whether medicine worked. Now, our expectations of what doctors can do are vastly increased: we expect medicine to cure us (always or almost always), to take away pain (or even discomfort), to extend life (in principle, indefinitely) and, more and more, to stop us feeling sad, anxious or inadequate. Medical success – or, more exactly, advertisements for the power of medicine – have created a new set of expectations that medicine cannot always, or even often, fulfil. Medicine works; medicine doesn't work. Historians should be interested in what counts as working, and how that's changed.

From the *LRB* letters page: [14 December 2006] [David Wootton](#), [Steven Shapin](#).

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