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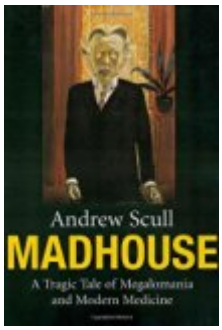
**Andrew Scull.** *Madhouse: A Tragic Tale of Megalomania and Modern Medicine.* New Haven: Yale University Press, 2005. xiii + 360 pp. $30.00, cloth, ISBN 978-0-300-10729-6.




**Reviewed by** Robert Darby

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In a long and distinguished career, few historians of medicine have done more to expose the fads and fallacies ruling the treatment of mental disorder than Andrew Scull, especially when they have involved therapies, such as confinement or surgery, that we would now regard as barbaric. Like a medieval priest or tribal sorcerer casting out demons, an astounding number of modern physicians, all boasting of their scientific credentials, seem to have worked on the assumption that the human body is its own worst enemy, and thus to have concluded that the road to health lay through the extraction or amputation of whatever body part could be held responsible for the dysfunction. In ***Madhouse***, Scull excels with a detailed account of the appalling career of Dr. Henry Cotton, superintendent of the Trenton, New Jersey hospital for the insane from 1907 until his death in 1933. The story is, as he comments, a Gothic nightmare in which masked and white-gowned jailers drag terrified and often screaming patients from their cells to a well-appointed operating theater where various bits of their anatomy are surgically removed. The only features which distinguish Trenton from a torture chamber or a horror movie, such as ***Flesh for Frankenstein*** (1973), is that it all really happened, anaesthetics were usually administered, and the operations were performed solely for the benefit of the patients. And if these procedures were carried out with a benevolent and therapeutic intent, there was as little need for informed consent as there could be reason to regard the result as mutilation.

Not that there was much evidence of benefit. Walking the wards of Trenton in 1928, a newly appointed Swiss staff member "felt sad, seeing hundreds of people without teeth.... While in hospital they suffer from indigestion ... not being able to masticate their food. At home, recovered, these poor people have the same troubles, not being in a position to choose food which they would be able to eat without teeth. In addition, they are ashamed of being without teeth, since in their communities it is known to be a token of a previous sojourn at the State Hospital. They abstain from mixing with other people, refuse to go out and look for a job.... Thus, many of those recovered develop a reactive depression" (p. 255). To describe how this tragic situation came about, and

explain why all attempts to curb Cotton's exuberance failed, are the twin objectives of Scull's study. An impressive feat of archival research stretching over two decades, including interviews with surviving players in the drama, ***Madhouse*** is at once a gripping narrative, a muckraking expose of medical fraud and professional vanity, and a sobering cautionary tale for our own times.

The context for Cotton's reign of terror was the uncertain state of scientific medicine in the early twentieth century, when the implications (and more especially the limits) of germ theory were not fully appreciated, and when the prestige of medicine was based largely on advances in surgery. He came onto the scene at a time when American psychiatrists were anxious to prove their own scientific credentials, and this meant a resolutely physicalist (and, in operational terms, often surgical) approach to diagnosis and treatment. Adolf Meyer, head of psychiatry at Johns Hopkins and Cotton's lifelong patron, took it for granted that mental conditions had somatic origins, and that it was the task of mental hospitals to study this connection and treat it by physical interventions. The approach was consistent with the contemporary status of surgery and in the tradition of Isaac Baker Brown, who in the 1860s had famously sought to cure mental problems such as hysteria and epilepsy in women by means of clitoridectomy; it was also consistent with the less famous example of Peter Charles Remondino, who claimed to have cured insanity and blindness in men by means of circumcision.[1]

Today we may laugh at the notion that pulling out teeth or extracting lengths of colon could alleviate mental disorders, but around 1910 such a proposition, although controversial, was at the cutting edge of scientific medicine. The theory of focal infection had powerful advocates in Britain and the United States, including Frank Billings, dean of the Chicago medical school from 1901 to 1924 and president of the American Medical Association in 1902; leading figures at the Mayo Clinic; and Felix Meyer himself.[2] Rashly extrapolating from early advances in germ theory and the discovery that the final stage of syphilis (general paralysis of the insane) was caused by bacterial infection, the theory of focal sepsis held that other ailments, both mental and physical, were likewise caused by hidden pockets of infection or by the toxins released by the bacteria sheltering there. Likely harbors for such pathogens were identified as the tonsils, the appendix, the intestines, the foreskin and the cervix. In the context of a medical culture which privileged prevention and admired surgery, it was inevitable that the clinical response to these insights would be radical rather than conservative, seeking to destroy the pockets rather than cleaning them out. Although focal sepsis was not a universally or even generally held hypothesis, it was supported by a large and influential stream of medical opinion. To put it into perspective and get a sense of its respectability, you might compare it to the strident claims in our own day that the best (and in the Third World, the only effective) approach to controlling HIV infection is by mass destruction of male foreskins.[3]

Encouraged by Meyer, whose support had given him the Trenton job, Cotton became a convert to this philosophy during the First World War, and speedily put his convictions into practice. He had no evidence that mental disorders were in fact caused by tooth decay or intestinal bacteria, but he was sure that proof would emerge from practice, and he certainly had the perfect set-up for unlimited clinical trials: dictatorial power and a captive audience, who were demonstrably sick and in no position to refuse treatment. By the early 1920s, he was extracting teeth by the dozen, and if that did not do the trick he turned his attention to other suspects: the tonsils, the large intestine, the cervix and the seminal vesicle. There was no attempt to gain informed consent, for "if we wish to eradicate focal infection we must bear in mind that it is only by being persistent, often against the wishes of the patient ... [that we can] expect our efforts to be success-

ful" (p. 55). The initial results, at least as reported by their promoter, seemed startlingly good and encouraged a false sense of confidence; Cotton boasted of his success to a gullible press and a naive public, and won the applause of the New Jersey administration because his rate of discharge (all cured!) relieved the State budget.[4]

As time went by Cotton's devotion to his fix grew to a tunnel-visioned obsession, and he turned from mere curative extraction, acting after the event, to prophylactic extractions, intended to prevent the problems that would inevitably emerge later. Quite early in his career he had attacked dentists for trying to preserve teeth and insisted that his own operations were "a conservative preventive measure"; but towards the end of his life he seriously proposed compulsory screening of all children between the ages of twelve and fifteen for dental trouble, with a view to pulling out any teeth that looked "at all suspicious." At least he had the courage of his convictions: he had some of his own teeth extracted in order to alleviate a heart condition; he pressured his wife to have all her teeth taken out as a preventive measure; and he performed large scale prophylactic tooth extraction on his two sons, as well as removing a section of colon from the younger boy. Regrettably, the treatment seems to have done them little long term good; both committed suicide in middle age.

As he got older, Cotton's approach became more radical. His reaction to the high death rate from his colon operations (about 30 percent) was not to wonder whether the treatment was misguided, but to conclude that it had not been sufficiently thorough. In a process of reasoning that reminds one of Aleksandr Solzhenitsyn's "Cancer Ward," he decided that the deaths were caused by pockets of infection that had been missed, meaning that more of the teeth or colon should be extracted, or that the surgery should be extended to other suspect organs. He also turned his attention to children, who also lacked power to say "no," removing not only their teeth, but sections of colon as a treatment for "sexual aberrations" such as masturbation in boys.

Cotton was not without his critics, one of whom commented acerbically that "we seem to be passing through another of the periods of fad and fallacy which has so often misled the profession and the public. If the craze for violent removal goes on, it will come to pass that we will have a gutless, glandless, toothless and ... thanks to false psychology and surgery, a witless race" (p. 125). Cotton simply brushed such cautions aside, warning that the mental health crisis threatening the nation was so serious that something had to be done, and anything was better than nothing; evidence would come later. A careful clinical trial at a different institution in 1922-23 did not confirm Cotton's amazingly positive results, however, leading to demands for an investigation into his procedures; but he had powerful friends on the Trenton board and in the State government. It was only when reports of brutality against patients and complaints from relatives began to surface that any action was taken. But the inquiry conducted by a committee under Senator Bright in 1925, after taking sensational evidence, was pacified and neutralized, leaving Cotton in a more secure position than ever. An important factor in his survival was the protection given by Felix Meyer, especially his successful efforts to suppress a damning report on Trenton prepared by Dr. Phyllis Greenacre.

If Cotton is the villain of this story, Greenacre is the unsung hero. In Scull's sympathetic account, her long but unrewarded career provides a heartwrenching counterpoint to the glittering prizes enjoyed by the celebrated superintendent, and shows that whistleblowers were no more appreciated in the 1920s than they are today. After graduating in medicine from Chicago, Greenacre came to Johns Hopkins to assist Meyer's endless research into the biological basis of the mind. When stories of the Trenton horrors surfaced and de-

mands for an investigation became too insistent to ignore, the board had the brilliant idea of commissioning Meyer as an independent expert; equally cunningly, he delegated the job to his highly capable but very junior assistant. Greenacre duly went to Trenton and in 1924-25 carried out a meticulous investigation into Cotton's cases, establishing that his claims of cure were baseless and possibly fraudulent, that the death rate from the various operations was alarming, and that the hospital was little more than a scientific mutilation factory. She sent regular updates to Meyer, who quickly realized that her explosive findings must be hushed up, and he spent the next few years ensuring that nobody got access to them, least of all the Bright committee. It is only thanks to Scull that Greenacre's work has finally been disinterred. The suppression of her report ensured that Cotton was able to continue his treatments for another eight years, and indeed that the surgical regime at Trenton continued (in a more moderate form) for decades after his death. Why was Meyer so keen to protect Cotton? Scull suggests that the fundamental reason was that he truly believed in the focal infection theory, but knew he had no proof. He thus needed Cotton to keep on performing his operations in the hope that the necessary evidence would eventually be produced. It is significant that Meyer's support did much to win acceptance for lobotomy in the 1950s.

One of the many strengths of ***Madhouse*** is a reflective conclusion on the subsequent history of somatic approaches to mental illness and in which Scull draws some of the lessons of the Trenton episode for the present day. While he is aware of the need to avoid both whiggism and anachronistic moralizing, he insists that we must also steer clear of the sort of moral relativism that would excuse Cotton because he thought he was doing the right thing or because his treatments were in accord with contemporary standards of medical culture. As Greenacre herself noticed in the late 1930s, the therapies then becoming popular--malarial infection, insulin, metrazol, camphor--were disturbingly similar to the Trenton regime, and these were followed by lobotomy, electro-convulsive therapy and doses of carbon dioxide. Scull argues, contrary to some other recent scholars, that Cotton cannot be dismissed as an aberration, nor the Trenton episode as a fleeting cloud on the otherwise benign face of American traditions of medical treatment:

"Henry Cotton's experiments on his Trenton patients were not an isolated and transient phenomenon. The notion of focal sepsis upon which he seized to explain psychosis, and to promote his campaign for surgical bacteriology, was embraced by some of the best medical minds of his era, and its significance and practical application extended far beyond the marginal realm of psychiatry. In general medicine over several decades, millions of tonsils were sacrificed on this particular altar, and major figures in physic and surgery accepted the basic idea that focal sepsis could cause chronic disease as plausible and promising" (p. 274).

Scull adds that his long-suppressed story "demonstrates the vulnerability of the mentally ill to victimization and the hollowness of professionals' claims to police themselves" (p. 277).

Cotton was not just a fanatic applying the physicalist procedures of mainstream medicine to the new field of psychiatry, but the embodiment of a deep-seated trend in the medical profession itself: the assumption that if these wise experts think some sort of treatment or procedure is good for you, it is your duty to submit to it, and even that they are entitled--by virtue of their scientific understanding and promise of benefit--to force it on you, with or without informed consent. Throughout his career, Cotton insisted that he was at the forefront of scientific rationality and that his therapies must be enforced because they flowed inexorably, as a matter of mere logic, from the facts of disease as established by the science of which he was the anointed interpreter. He claimed that his approach was based on "scientif-

ic medicine," the germ theory of disease, and "scientific evidence and proof." His published articles are peppered with terms like "progressive medical men," "indisputable facts," "modern medical knowledge"; it hardly needs to be said that they were totally innocent of any ethical awareness. Cotton attacked Freud as unscientific, but his own writing style was even more dogmatic, self-assured and weak on proof; he used science not so much as a procedure for discovering truth than as a rhetorical device to persuade the uncommitted and bludgeon his critics.

None of this prevented Cotton, when he found that his profession was not entirely convinced, from appealing over the heads of his peers to the popular media and the general public to advance his propositions. Like Baker Brown, he seems to have had both a taste and a talent for self-promotion, and while his appeals to lay audiences annoyed his professional colleagues, they impressed the ignorant and the gullible. Press responses to Cotton's discoveries were as effusive and uncritical as those which greeted claims of the miraculous benefits of lobotomy in the early 1950s, or the value of circumcision as a sure-fire immunization against HIV in our own day. By contrast, the careful study by Nicholas Kopeloff and Clarence Cheney which failed to replicate Cotton's results attracted very little attention--a striking instance of Robert Van Howe's observation that negative results on a controversial question are unlikely to receive much notice, or even get published.[5]

The Trenton episode thus offers many lessons for the present, not just in the field of psychiatry, but in relation to any mindset focused on a particular therapeutic technique dear to its promoters. A reading of ***Madhouse*** should encourage us to be particularly sceptical towards those self-proclaimed saviors who insist that a crisis situation demands radical measures, and that surgical intervention is the best or only way to treat, control or prevent the health disaster that is surely looming. It also highlights the necessity for particular caution and ethical reflection when the beneficiaries/victims of the proposed intervention lack the power to resist the recommendations of the medical authority (as with mental patients or children), or who lack the knowledge and sophistication to give truly informed consent (as with the poor and ignorant populations of underdeveloped countries, who are increasingly the subject of clinical trials conducted by Western health experts, all pushing barrows of their own).

Scull's exposure of Dr. Henry Cotton should inspire scholars to investigate other dark corners of American medical history, such as the persistence of radical mastectomy as a treatment for breast cancer, long after the procedure had been rejected elsewhere as unnecessarily brutal; or the continuing popularity of infant male circumcision as a means of reducing the risk of a few uncommon diseases, all of which can be avoided by the exercise of a little common sense. Although western populations have never been healthier, we seem to grow ever more anxious about our health "problems," whether mental or physical. We still like to have faith in magic bullets to alter the body and guard against disease, and we still rely on physicians and medical researchers to police themselves. Professor Scull's shocking tale from the not-so-distant past is thus a timely reminder that patients--particularly the powerless, whether mental cases, children or ignorant adults--are vulnerable at the hands of medical authorities, and that science itself is subject to manipulation by those with institutional power or privileged access to the media. If Cotton was America's first Isaac Baker Brown, he was certainly not the last.

Notes

[1]. Andrew Scull and D. Favreau, "A Chance to Cut is a Chance to Cure: Sexual Surgery for Psychosis in Three Nineteenth-Century Societies," ***Research in Law, Deviance and Social Control*** 8 (1986): pp. 3-39; Ornella Moscucci, "Clitoridectomy, Circumcision and the Politics of Sexual Pleasure in Mid-Victorian Britain", in ***Sexualities in***

*Victorian Britain*, ed. Andrew H. Miller and James Eli Adams (Bloomington: Indiana University Press, 1996); Peter Charles Remondino, ***History of Circumcision from the Earliest Times to the Present: Moral and Physical Reasons for Its Performance*** (Philadelphia and London: F. A. Davis, 1891): pp. 272-273; and "Circumcision and Its Opponents", ***American Journal of Dermatology and Genito-Urinary Diseases*** 6 (March 1902), pp. 69-70. On Remondino generally, see Leonard Glick, ***Marked in Your Flesh: Circumcision from Ancient Judea to Modern America*** (New York: Oxford University Press, 2005), pp. 174-177.

[2]. Ann Dally, ***Fantasy Surgery 1880-1930: With Special Reference to Sir William Arbuthnot Lane*** (Amsterdam: Rodopi, 1996); and Robert Darby, ***A Surgical Temptation: The Demonization of the Foreskin and the Rise of Circumcision in Britain*** (Chicago: University of Chicago Press, 2005).

[3]. Robert Van Howe, J. Stephen Svoboda and Frederick Hodges, "HIV Infection and Circumcision: Cutting through the Hyperbole", ***Journal of the Royal Society for the Promotion of Health*** 125 (2005): pp. 259-265.

[4]. It is very common for the early results of clinical trials to be highly and misleadingly positive, leading to premature optimism. For a recent analysis of why this is so, see John P. A. Ioannidis, "Why Most Published Research Findings Are False," ***Plos Medicine*** 8 (2005). The abstract states, "The probability that a research claim is true may depend on study power and bias, the number of other studies on the same question, and, importantly, the ratio of true to no relationships among the relationships probed in each scientific field. In this framework, a research finding is less likely to be true when the studies conducted in a field are smaller; when effect sizes are smaller; when there is a greater number and lesser preselection of tested relationships; where there is greater flexibility in designs, definitions, outcomes, and analytical modes; when there is greater financial and other interest and prejudice; and when more teams are involved in a scientific field in chase of statistical significance. Simulations show that for most study designs and settings, it is more likely for a research claim to be false than true. Moreover, for many current scientific fields, claimed research findings may often be simply accurate measures of the prevailing bias." Text available online at http://medicine.plosjournals.org/perlserv/?request=get-document&doi=10.1371/journal.pmed.0020124.

[5]. For example, A. O. Carter, G. H. Griffin, T. P. Carter, "A Survey Identified Publication Bias in the Secondary Literature," ***Journal of Clinical Epidemiology*** 59 (March 2006): pp. 241-245; and Y. Littner, F. B. Mimouni, S. Dollberg, D. Mandel, "Negative Results and Impact Factor: A Lesson from Neonatology," ***Archives of Pediatric Adolescent Medicine*** 159 (November 2005): pp. 1036-1037.

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