BOOK REVIEWS

THE GREAT PRETENDER: THE UNDERCOVER MISSION THAT CHANGED OUR UNDERSTANDING OF MADNESS

Susannah Cahalan


How should we describe the late David Rosenhan’s 1973 Science article, “On being sane in insane places” (Rosenhan’s 1973)? It famously recounted how otherwise normal pseudopatients got themselves admitted to various psychiatric hospitals based on a single symptom—a voice apparently saying “thud, hollow, empty.” Was it a social psychology experiment based on deception? Or was it more an ethnographic immersion study of institutional and professional practices? Now thanks to Susannah Cahalan’s The Great Pretender, it can best be described as a dubious hoax.

As we wearily know, hoaxes make for upheavals and lend themselves to causes, in spite and perhaps because they have such contestable implications. About all we can agree on is that you can fool others by lying to them. At the time, however, Rosenhan’s article was popularly taken as an antipsychiatric vindication, while provoking anger and embarrassment amongst mental health care professionals. It seemed psychiatrists had trouble distinguishing the “sane” from the “insane.” Once admitted, the pseudopatients’ normality was never detected by hospital staff. Innocuous behavior was interpreted through a pathologizing lens. Daily life in the hospital wards was experienced as dehumanizing and degrading. And the diagnostic labels the pseudopatients were given—typically some form of schizophrenia—tended to stick. When the pseudopatients were able to secure their release, all trailed an “in remission” tag.

However, Cahalan has thrown into doubt not only the accuracy of Rosenhan’s reporting, but the basis of the study itself. Advance publicity had focused on the suggestion that six of Rosenhan’s nine pseudopatients might not have existed at all. Knowing how hard it is to prove a negative, I had the “absence of evidence” fallacy firmly in mind. But as I read the book, I found these worries receding. Cahalan was able to locate Rosenhan’s private files, along with the medical records of three pseudopatients—interviewing the two still living. Piecing it together revealed damaging discrepancies, so damaging they appear to render the legitimacy of this celebrated article unsustainable.

Rosenhan was the first of the pseudopatients. His 9 day stay at Haverford State Hospital in 1969 left him shaken but would inspire what was to come. Rosenhan’s study may well have been an exercise in fabulist extrapolation; it certainly began with a fundamental misrepresentation. Using the alias “David Lurie,” Rosenhan had significantly embellished his presentation symptoms. His medical records speak of the distress these “voices” were causing him, his attempts to insulate himself from them, and the suicidal thoughts they gave rise to. Confronted with this cluster of red flags, the psychiatrist assessing Rosenhan/Lurie committed him to in-patient care—as any good psychiatrist would have—with the not unreasonable diagnosis of “schizophrenia, schizoaffective type.” In contrast, the Science article specified a far tamer presentation script: only one hallucinatory symptom was offered alongside a truthful personal history. In any case, Rosenhan was released from Haverford with the diagnosis “paranoid schizophrenia, in remission.” And while Rosenhan’s experience in the wards may have been harrowing, it was not quite the norm for others in the study.

The two other pseudopatients Cahalan identified—Harry Lando and Bill Underwood—both stuck closer to the presentation script. But they were given shockingly little preparatory instruction and support from Rosenhan.
For example, Rosenhan didn’t, as he claimed, have writs of habeas corpus prepared to extract his pseudopatients if necessary. Rosenhan would later drop Lando from the final draft of the *Science* article. Rosenhan claimed this was because Lando had given false details about his personal history. But in hindsight, it seems clear this was because Lando’s very positive experience did not fit Rosenhan’s narrative. While many psychiatric institutions were indeed wretched places, Lando found his stay genuinely calming, supportive and uplifting. As Cahalan notes, the inclusion of Lando’s inconvenient counterpoint would have made for a more complex but representative story—and different lessons.

Then there are the issues about the data. Rosenhan’s article is illustrated with some specific numbers on ward routines, medications and interactions with staff—although they had a frustratingly unsystematic, anecdotal aspect to them. Gathering such data would require constant vigilance and detailed note taking. Rosenhan might have taken the necessary care to justify such precise numbers. However, Underwood barely paid any attention to this facet of the study during his eight-day stay. Conversely, Lando’s data was included in an initial draft but excluded from the final article. But according to Cahalan, the numbers did not change in the process, not one. And Rosenhan still included useful snippets of Lando’s experience in the published version of the article.

Not only were admissions not as described, neither were releases. Rosenhan, Underwood and Lando were all able to leave soon after they asked to, following relatively short stays. Only Rosenhan’s records featured the uncommon “in remission” tag. And the questions only mount. Rosenhan never explained how he supposedly got access to his pseudopatients’ medical records. Underwood and Lando thought this might have been achieved by posing as their “clinical psychologist.” Furthermore, Cahalan found no evidence that the guess-the-pseudopatient experiment described in the *Science* article was ever conducted (Cahalan, 2019).

Rosenhan’s audience readily accepted his account of the pathologizing psychiatric lens and the “stickiness” of diagnostic labels, for it rode a critical wave whipped up by various anti-psychiatric writers. However, we now know these ideas were not actually borne out in significant portions of Rosenhan’s very loosely controlled study. The three known pseudopatients were not flagrantly misdiagnosed, given the way they had presented, asking for help. The mildness of both Underwood’s and Lando’s “conditions” did not go unrecognized, and the labels they were given did not stick in the way Rosenhan claimed. Rosenhan always had a valid point: psychiatric diagnosis was problematic, with the line between the “sane” and “insane” just one of the issues. But Rosenhan’s prosecution of his “case” was like a lawyer framing a guilty man.

The plot thickens when chief critic Robert Spitzer arrives to defend psychiatry’s honor. Spitzer had the goods on Rosenhan, and Rosenhan knew it. Spitzer had been able to obtain Rosenhan’s Haverford records, just as Cahalan did 40 years later. The psychiatrist who assessed Rosenhan/Lurie had passed them on, understandably offended by Rosenhan’s article. We can thus read this inside knowledge into Spitzer’s (1975) critique, as he hints at symptom embellishment and a lack of access to records while challenging Rosenhan to release his data (p.445 and p.447). Rosenhan had tried to stop Spitzer publishing his attack, telling him that his Haverford stay was purely a teaching exercise—which it was, initially. But this was odd, given Rosenhan’s *Science* article clearly acknowledged he was the first pseudopatient (p.251). Was Rosenhan implying he had gone undercover a second time? He only did so after the *Science* article was published (Cahalan, 2019).

But at this crucial turning point in history, Spitzer refrained from exposing Rosenhan. The collateral damage this might cause his colleagues at Haverford was probably a restraining factor. Instead, he leveraged Rosenhan’s study to his advantage. Spitzer was able to enlist American Psychiatric Association support and recruit like-minded data-oriented psychiatrists for his quest to make psychiatric diagnosis more reliable. It would soon result in DSM-III, its check-list approach constructed with Rosenhan’s fakers in mind. DSM-III was welcomed as a long-needed clarification and standardization. It provided the illusion of reliability and discrete syndromes, firmly consolidating the practice of diagnosis as a necessary administrative ritual.

Spitzer’s *kompromat* must have hovered over Rosenhan like the sword of Damocles, adding to the welter of criticism he received in academic journals. It was enough to discourage him from finishing a book on the study that was destined to be a bestseller. Instead of cashing in, Rosenhan retreated to examine other topics. His spurned publisher would eventually sue him for the lucrative advance they’d given him.
And we ended up with the worst of all worlds. Rosenhan's eye-catching study added to a long line of trenchant critiques and well-documented exposés. Governing bodies overseeing ageing psychiatric hospitals across the English-speaking world had already taken note and would opt for the economically expedient way out. "Deinstitutionalization" became a rationale for simply closing the hospitals down. In turn, American psychiatrists got particularly hooked on prescribing, dispensing with their custodial duties and much of their pastoral role. Now it is very difficult to get in-patient psychiatric care in the US; one must present as gravely disabled, the golden ticket being dangerous suicidal ideation. Meanwhile, the DSM was successively revised and expanded. It has now morphed into the sprawling, overly inclusive DSM-5. Some former DSM architects wonder whether "normal" can still be saved from its pathologizing grasp (Frances, 2013). Ironically, Rosenhan's nemesis helped make aspects of his critique even more relevant today.

Cahalan's book follows in the footsteps of recent historical deconstructions of seminal psychological studies, notably the work of Perry (2012). Towards the end, Cahalan puzzles over the reality of the other pseudopatients, as every promising lead goes cold. But it seems certain that if these pseudopatients did exist, their experiences would not match up well with Rosenhan's reporting, given the toxic mix of sloppiness and tendentious distortion she has uncovered. This is a rose that definitely doesn't smell as sweet. So, where do we go from here? Over to you, Science.

REFERENCES


Roderick David Buchanan
School of Historical and Philosophical Studies, University of Melbourne, Australia

DOI: 10.1002/jhbs.22022

FILM REVIEW: SPK COMPLEX, DOCUMENTARY FILM BY GERD KROSKE (2018). 111 MINUTES, COLOR; IN GERMAN WITH ENGLISH SUBTITLES. DISTRIBUTED BY ICARUS FILMS

SPK Complex explores how the antipsychiatry movement was associated with terrorism in Germany during the 1970s. To understand the film's discussion of this surprising connection, however, the viewer must have a great deal of prior knowledge about the time: the accomplished, but sometimes stultifying and conformist atmosphere of professional life in West Germany as the post-war "economic miracle" was being celebrated; contemporary criticisms of psychiatric treatment; the attraction of Western Marxism to the "student movement"; and, most ominously, the left-wing terrorism that plagued Germany and Italy during the 1970s. An online review for the magazine Spiegel called the film "an up close and personal account of how Germany can make you go mad."

The title of the film names the group in question, the Socialist Patients' Collective (SPK, in German abbreviation), founded in 1970 by a young psychiatrist working in the Heidelberg University Polyclinic, Wolfgang
Huber. The word "complex" rings psychoanalytic, and it also recalls a German theatrical film, The Baader-Meinhof Complex (2008). Ulricke Meinhof and Andreas Baader were regarded as the founders of the Red Army Faction (RAF), the German counterpart of the Italian terrorist group, Red Brigade. Beginning in the late 1960s these two groups were credited with a remarkable series of robberies, bombings, assassinations, kidnapings, and hostage standoffs that terrorized political and industry leaders and riveted public attention for at least a decade.

Young Dr. Huber was very dissatisfied with his education in psychiatry during the late 1950s, especially with the use of electroshock therapy and other practices in psychiatric hospitals. As students came into the Polyclinic with the usual complaints (depression, anxiety, sexual problems, etc.), he refused to refer them for traditional treatments. He told them that they were not sick, but that German society was sick and that the capitalistic system, including the psychiatric "industry," needed to be overthrown. He advised them to "turn their 'sickness' into a weapon." Many of the young patients gladly accepted this reassurance, and they wanted more. To accommodate their need for discussion and political growth Huber created a program of group therapy, soon called a collective: older or more experienced students would supervise the newer collective members (no longer considered patients). Although the word Kollektiv was a common economic term used in East Germany at the time, Huber himself did not refer to Marx or other readings in the Soviet canon; drawing on his background in philosophy, he recommended group readings of Hegel. Those interviewed for the film recall that they also read Reich, Foucault, and Franco Basaglia, who was then dismantling the mental hospitals in Italy. There is no mention of the prominent anti-psychiatrist, R. D. Laing, whose views seem close to those of Huber. The film gives little information on the nuts and bolts of SPK group therapy; interviewees recall some of the things that attracted them to Huber, then they quickly shift to the political and legal problems.

For his refusal to follow standard treatments, Huber was fired from the University Polyclinic, but that event only increased interest in his ideas and his course of "treatment." Led by Dr Huber the SPK occupied a prominent building in Heidelberg for its activities, attracting as many as 500 people, mostly students; the very attentive Heidelberg police were able to identify some RAF members among them. They raided the SPK building, emerged with some illegal weapons, and arrested several people, including Huber and his wife, who were tried and convicted and each served over 4 years in prison. The lifespan of SPK was barely 18 months, but it left behind pamphlets and a large following. Some people were convicted of membership in both SPK and RAF, as West German prisons filled with left-wing political radicals. The film leaves open the question of actual complicity in the violent movements, but SPK publications clearly show that its members shared the leftist rhetoric and political goals of the RAF. Some former SPK members were also implicated in the hostage crisis in the West German embassy in Stockholm in 1975, one of the few terrorist acts that the film addresses directly. When the German authorities failed to meet deadlines for release of imprisoned RAF members, the commandos methodically executed two German diplomats. At that point the police raided the embassy; the commandos set off an explosion, killing one RAF member and injuring the others and the hostages, who were finally freed. (The "Stockholm syndrome," by the way, has nothing to do with this hostage situation, but with a bank robbery that occurred 2 years earlier.)

In German history (but not in the film) the denouement of the RAF comes with its support for the Popular Front for the Liberation of Palestinian, when it hijacked a Lufthansa jet in October, 1977. The hostage passengers were liberated by a German antiterrorist assault in Somalia. In response, the RAF murdered its most prominent hostage at the time, the industrialist Hanns-Martin Schleyer, and several RAF leaders committed suicide in prison, bringing the "German Autumn" to its conclusion. For a long time, however, popular revulsion against any criticism of the West German system endured—thus the "complex." German political radicals, even mere leftists, may have found truth in some of the criticisms of their society, but the media frenzy that followed the terrorist acts tainted left-wing ideas. In his interview for the film, the judge in Huber's trial recalls that the young doctor simply had no support from his professional colleagues and that the SPK members, in their rhetoric and antics in the courtroom, were clearly embarking on a "little jihad."

Essential historical background, which non-Europeans or younger viewers would need, is missing from the film, but could be remedied by reading, for example, Stefan Aust, Baader-Meinhof: The Inside Story of the R.A.F. (translated and revised, 2009) and the unfortunately-titled Hitler's Children: The Story of the Baader-Meinhof Terrorist Gang, by Jillian Becker, a British author who captured the mood already in 1977. SPK Complex seems to concentrate on two
main questions. How could a psychiatric movement in Heidelberg University become associated with political violence? Was SPK really connected to terrorism, or simply to generational dissatisfaction with the status quo? The film complicates those questions more than it answers them. Certainly the post-fascist context of the 1960s is clear enough. By 1970 some medical professors in Heidelberg had been exposed for their participation in “Nazi medical experiments.” Huber’s critique of the psychiatric methods of the 1960s makes sense today, though his sweeping indictment of the capitalist system is dated. He continued to resist during his imprisonment, and some of his handlers there considered him mentally ill. After his release from prison, Huber vanished without a trace.

The film resolves very little, but it can provide source material for anyone investigating the political context of the psychiatric reform movement, at least in Germany. The problem of terrorism and political violence dominates the film, but the implications are that Huber and SPK were not themselves violent and that the Hubers were probably not guilty of the crimes for which they were convicted. Former SPK members, including one who turned state’s evidence, recount their memories and their feelings, with distance of 40 years. Police, legal officials, and journalists who worked on the case contribute their memories, and there is also some photographic, audio, and video documentation: speeches, hearings, court proceedings. Perhaps to emphasize the stubborn human “complex” at work here, the film ends eerily in Italy, at a photography exhibit featuring one of the psychiatric hospitals closed by Basaglia in the 1960s, recently reopened as a refugee camp for those fleeing political violence in Africa and Asia. Photos of the two inmate populations are shown side-by-side. One of the curators of that exhibit, whose musings feature prominently in the documentary, is a former SPK and RAF member who worked as a psychiatric nurse in Italy after her release from German prison. She notes that nothing much changes: innocent people suffer, bewildered, caught in the system.

David K. Robinson
Department of History, Truman State University, Kirksville, Missouri

DOI: 10.1002/jhbs.22023

**HELMHOLTZ: A LIFE IN SCIENCE**

David Cahan (Ed.)

The flourishing of institutional science from mid-nineteenth to early twentieth century Germany has deep roots in the country’s local and political history. At the beginning of the era, private labs funded by individuals, including Werner von Siemens, supported a great deal of research. Universities then took over, funding scientific research, and the government funded research centers as part of its aspirations to rule.

During this period, Western research science grew to become the institutional juggernaut it is now. Hermann von Helmholtz (1821–1894) is one of the figures who profited mightily from this development, and who was able to parlay social and political know-how, as much as scientific talent, to secure his achievements. Those achievements are undeniable. He designed one of the first ophthalmoscopes and one of the first stereoscopes, formulated equations for fluid mechanics, and provided general frameworks for analyzing optical and acoustic sensations and how they are composed by the brain into sounds and images (including color phenomena). He was among those who put an end to the “vital force” paradigm in medicine. His work in electrodynamics laid the groundwork for Heinrich Hertz’s production of radio waves for the first time. (Helmholtz’s influence on his students and postdoctoral researchers is exclusively detailed in Chapter 24.) He formulated the Helmholtz–Gibbs free energy. There is much more to say about his accomplishments, and much of it is said in the work under review.
A new biography of Helmholtz has been lacking for some time. There was an earlier attempt by his friend Leo Königsberger, which sometimes is considered too hagiographical. (Although, because much of it is firsthand testimony of conversations with Helmholtz, it has a value of its own.) More importantly, Helmholtz needs a new introduction to a new generation of scholars, who may not appreciate his intellectual contributions, or his significance to the history of science. This new and substantial biography by David Cahan accomplishes this last task especially well. Cahan has a distinguished career in scholarship of the history of nineteenth and twentieth century science, especially including the work of Helmholtz. *Science and Culture: Popular and Philosophical Essays* (Chicago: University of Chicago Press, 1995) is a standard text for those first coming to grips with Helmholtz’s work. He edited *Hermann von Helmholtz and the Foundations of Nineteenth-Century Science* (Berkeley: University of California Press, 1994), a collection that places Helmholtz’s work in context of the upheavals and advances of his time.

Among Cahan’s most significant work is his painstaking research into the institutions, funders, locations, and intellectual milieus that give rise to scientific activity, and how he links them to political history. His first book, *An Institute for an Empire: The Physikalisch-Technische Reichsanstalt, 1871-1918* (Cambridge: Cambridge University Press, 1989), links the institution in which Helmholtz saw the fullest flourishing of his career to the aspirations to rule late nineteenth and early twentieth century Germany.

Given his own scholarly history, it is unsurprising that Cahan’s monumental biography of Hermann von Helmholtz is at its best when elaborating Helmholtz’s place in history, especially in terms of the larger history of German (and sometimes British) science and philosophy. The readers of this study will find carefully elaborated vignettes of German university towns, with a special focus on the “scientific” laboratories and universities being built there. “Scientific” is in quotation marks because, in many ways, what was done in German, French, British, and American universities in the nineteenth and twentieth centuries came to define what was scientific, a point that will be taken up again in this review.

Helmholtz had a deep working knowledge of mathematics, especially harmonic analysis, differential equations, and the calculus of variations. And he had significant training in experimental physiology. He leveraged these beginnings to build one of the most significant scientific careers in Germany, eclipsed only by the more familiar figures of the early twentieth century (e.g., Einstein and Planck). He worked steadily throughout his career, and amassed a staggering number of published papers and results. I use that word literally: if someone printed them all out and carried them around, that person would stagger under the weight. This is one reason for a biography like this: to put Helmholtz’s papers and accomplishments into a larger narrative that allows the reader to understand the sequence, and to “periodize” his career, as the historians say.

Cahan rightly focuses quite a bit of attention on what it took to make a research scientist at the time. From early on, Helmholtz had to find university positions, funds for his labs, and equipment. But, as Cahan emphasizes in Chapter 5 especially, he also had to do a great deal of what is now called networking. Helmholtz’s ability to sell his scientific work comes across as just as crucial to his career as his scientific ability—a phenomenon that will be familiar to present-day working scientists.

In this sense, Helmholtz was among the first modern research scientists. And he had an unexpected talent for networking, traveling to England and meeting with the foremost scientists of the day: Cahan dubs it “The Roadshow”. Chapter 23 details Helmholtz’s tour of the scientific capitals of Europe and the United Kingdom in the spring of 1881, giving the Faraday Lecture and meeting with scientists including Tyndall and Crookes. Helmholtz hosted salons with his wives Olga and (then) Anna at their houses, meeting with dignitaries who would then support his work, and—and this became crucial to his career—persuading those dignitaries of his political and “moral” bona fides. Helmholtz got at least one job over a rival because the rival had expressed radically democratic political views.

The Helmholtz of Cahan’s book is a family man, deeply attached to his parents, wives, and children. He is rooted in his scientific community, values his collaborators and students, and is enthusiastic about building institutions for the practice of science. These traits come across perhaps more strongly than his scientific results themselves. The achievement of this biography is to provide a detailed picture of Helmholtz’s life in science, as the title rightly puts it. The reader will be able to obtain a detailed picture of where Helmholtz was at each stage of his life and career: What were the scientific questions disputed at the time? Where was Helmholtz living, what University hired him, and how did
that affect his work and life? Where did he travel, and who were his interlocutors? That information is invaluable to understanding how Helmholtz’s work developed and changed, and even why he might have made certain arguments.

The influence of interlocutors, rivals, and enemies on Helmholtz’s work is key to his career. His disputes with Ewald Hering over empiricism vs. nativism in physiology, and over the opponent process theory in visual perception, are legendary. He spent much of his career arguing for his law of conservation of force against appeals to vital forces. He saw a violation of force conservation even in the electrodynamical work of Wilhelm Weber, whose work he criticized severely, galvanizing a controversy (pp. 443ff.). He argued early on against Goethe’s claims to a scientific theory of color, which is detailed here (Ch. 6, pp. 124ff.).

One valuable contribution of this work, then, is to allow researchers or enthusiasts reading, or working on, Helmholtz, the history of science, or the nineteenth and twentieth century in Germany, to understand Helmholtz’s career and achievements more fully. I haven’t mentioned the length of the book yet: it is extremely long, with 764 pages of text alone, plus extensive references. Anyone interested in any aspect of Helmholtz’s career can, and should, consult this as a substantial reference, to better understand the situation in which Helmholtz was working at the time.

Helmholtz’s correspondence is cited quite extensively and is the basis of much of the narrative, and the book is written quite emphatically from his point of view. Helmholtz and others in his orbit frequently make assertions about what is and is not scientific, and who is or is not scientifically trained or competent, for instance. Certainly Helmholtz was given free rein to make those judgments at the time, because of his burgeoning institutional power and influence. And to report these judgments is quite appropriate for an account of a “life in science.”

Still, much of what is interesting about the history Cahan recounts is how ruthlessly rival research programs and approaches are treated by Helmholtz and others who were engaged in institution building. This is not to mention the treatment of women in the circles in which he traveled: not as intellectual equals, certainly. One of the most intriguing lines of research suggested by Cahan’s book is to investigate how a certain way of doing science, and a certain image of the scientist, came to hold such ascendancy in Germany, and why. Cahan’s work demonstrates quite clearly how hard Helmholtz had to work to have his own work recognized. That was not just hard work doing science: he also had to make the case for his way of doing science, as the early chapters of this work make clear.

Helmholtz’s career, as this volume makes clear, is a tale of almost unalloyed success. There were a few missteps in the beginning, including having his manuscript on the law of conservation of force rejected by Poggendorf for the Annalen. But by the middle of his career, as Cahan details, journal editors were soliciting his contributions enthusiastically, he was fêted all over the world, and he became a member of almost every major scientific society in Europe. In turn, Helmholtz helped to establish university labs, major institutes including the Reichsanstalt in Berlin, and a research program deeply rooted in eighteenth and nineteenth century mechanics and pure mathematics. By living a life in science, Helmholtz established a compelling and predominant image of science itself.

Lydia Patton
Department of Philosophy, Virginia Tech, Blacksburg, VA

DOI: 10.1002/jhbs.22024

FILM REVIEW: THE FRUIT MACHINE, DOCUMENTARY FILM BY SARAH FODEY (DIRECTOR) (2018). 81 MINUTES, IN ENGLISH. SANDBAY ENTERTAINMENT DISTRIBUTED BY TV ONTARIO

On November 28, 2017, Canadian Prime Minister Justin Trudeau delivered an apology to LGBTQ+ Canadians from the House of Commons: "We were wrong. We apologize. I am sorry. We are sorry." This short clip, repeated across news networks, overlooked and overshadowed the decades-long work leading up to that significant
moment. Most Canadians remain alarmingly ignorant about our country’s history of persecuting and discriminating against LGBT citizens. Canadian filmmaker, director, and producer Sarah Fodey (2019) has created a 2018 documentary entitled The Fruit Machine that begins to correct this deficiency. In a heart wrenching 81 min of oral histories, 14 veterans and persons currently serving in the Canadian Armed Forces (CAF), Military Police, and Canadian Public Service recount how their lives were affected by a policy that sought to purge homosexuals from public service. This policy included “CFAO 19-20,” a document outlining the CAF homosexual ban, and the creation of inventories and apparatus designed to scientifically weaponize gaydar for use against its membership.

This psychological instrument, prepared by Carleton University professor Dr Frank Robert Wake, and later given the derisive nickname “fruit machine” by Royal Canadian Mounted Police (RCMP) Sergeant Vaughn MacKenzie, was an assemblage of “objective tests” intended to identify homosexuals. In fact, the lie detector system, pupillary response mechanism, and interviewer-administered questionnaires yielded inconsistent results. As we see through the film, most of the work outing and dismissing LGBT public servants relied on a combination of spy work, threats, and interrogation.

Garnering considerable media attention and accolades in Canada (IMDB, 2019), The Fruit Machine is ripe for an international audience. While LGBT rights—notably the ban on transgender recruits—are under attack by the current United States government, the CAF has been actively recruiting from this community (Harris, 2019). This sharp contrast comes after decades of struggle in and out of the courts. Appearing in the film, queer elders Michelle Douglas, R. Douglas Elliott, and Diane Pitre, among others, took the Canadian government to court and won. Their legal battle set in motion a series of legislative actions earning LGBT citizens marriage equality, the right to serve, and freedom from discrimination. The film, however, is not about the fight for justice. Rather, it centers on the oppression experienced by these veterans. The Fruit Machine is a painful and sometimes absurd historical record offering firsthand accounts of how the gay rights movement transpired in Canada’s military.

The film begins with a series of images of newspaper headlines, government reports, and photographs of gay rights activists. A dramatic piano melody accompanies audio recordings of what sounds like police radio reporting “homosexual crime” in progress. Six brief interviews are used to summarize the main themes of the film: The perceived threat of and actual threat to homosexuals, the problematic association of homosexuality with mental illness, social repercussions of being outed, and military discrimination and scapegoating disguised as public safety. The opening montage conveys a foundation of valid and reliable research methodology.

Walking the line between compelling storytelling and history, it is difficult to ascertain what footage is authentic and what is aesthetic. Documentaries intersect the fuzzy boundaries of archival and oral history, dramatic storytelling, and public education (Nichols, 1998). This film balances interviewee statements with supporting archival footage and still images to efficiently acknowledge the larger history without resorting to kitschy dramatic re-enactments. Much of the archival material comes from personal collections of the interviewees, as well as television and news agencies, and public and government sources. Notably absent are artifacts from the RCMP or CAF, entities which several of the interviewees accuse of having maliciously destroyed or lost their records. Without funding or materials from the CAF, the film takes a clear stance supporting the voices of its interviewees.

Those voices flow in several distinct parts loosely following the chronological order of events. First outlining why and then how homosexuals came to be targeted, Fodey relies on authors John Sawatsky, Dr Gary Kinsman, and John Ibbitson, and LGBT lawyer R. Douglas Elliott to briefly outline the history of the fruit machine. She uses the voices of affected veterans to describe its implementation (what came to be known as the purge) and the fallout from those actions. Finally, the film ends with the eventual government apology, restitution, and reception from those impacted.

As one example, Sawatsky, author of Men in the Shadows, talks briefly about how the defection of Soviet Igor Sergeevich Gouzenko in 1945 prompted Canadian Prime Minister William Lyon Mackenzie King to call a Royal
Commission to investigate espionage in Canada. Fearing military and public service members could be vulnerable to blackmail by enemy spies, and determining LGBT people were the largest risk, the National Security Council and RCMP began an operation to purge gays from service. The irony of blackmailing people to prevent them from being blackmailed is not lost on the interviewees.

Much of the first half of the film is narrated by male voices—the researchers and lawyer who looked into cases, and the older generation who were first subjected to the fruit machine. The second half of the film is supported primarily by female voices of veterans and former public servants who were brought into the CAF between the 1970s and 1990s. From an intersectional perspective, these women faced sexism in addition to the homophobia experienced by their male counterparts. Some of these differences are evident in their characterization of the absurdity of stereotypes used to identify them.

Describing the lengths they went to to avoid detection, interviewees outline some basic rules Kinsman characterized as learning "how to perform yourself as being heterosexual." The music in this section is light to highlight how comical the outdated prejudices appear in hindsight. For instance, retired public servant Leo Morency recalled, "If you go for a beer, you sit on the left, always go to the left, never go to the right. Like, the way you sit or the way you hold your cigarette, you know, you don't want to appear gay or homosexual, so you gotta look butch." Indicators ranged from choice of jewellery to car colour, one's posture, and even athletic ability.

Fodey juxtaposes stereotypes and public fear demonstrated in the 1961 film Boys Beware with footage of retired performer and public servant Paul Fournier in drag, people dancing at a house party, and lawyer Elliott as a young man walking lovingly with another young man. The lone predator image projected in Boys Beware couldn't be further from the images of men with loving friends and partners. It is in these contrasts that the film challenges past portrayals of homosexuality from the lived experiences of these individuals.

In fact, the film shows how it was the RCMP who behaved like predators in the shadows. They resorted to espionage to track and document over 9,000 suspected homosexuals. Another disparity is highlighted between pre- and post-1969, when Prime Minister Pierre Elliott Trudeau introduced Bill C-150 to decriminalize homosexuality. It was surprising to learn that the CAF and RCMP increased their efforts to purge homosexuals from service after the passing of this bill. During the later portion of the film, this offensive was colorized by interviewees, many of whom were female. Their recollections are powerful but also potentially triggering, as they give detailed accounts of the interrogation, bullying, torture, and rape that transpired, as well as the resulting homelessness, drug and alcohol addiction, and suicide attempts these people endured.

Homosexuality was only removed from the DSM in 1987. Before that change, psychologists claimed that such identities were correlated with a variety of psychopathologies such as schizophrenia, personality and borderline disorders, and even bestiality. As unthinkable as these claims may sound today, watching individuals read their official diagnoses and recalling the ramifications of such reports brings the reality of this situation and our past into stark relief. This is important viewing for anyone interested in the history of psychology in North America.

The final part of the film covers the apology from Prime Minister Justin Trudeau, and what reconciliation and rebuilding has happened since. Fodey plays the now widespread clip from the House of Commons. Trudeau is applauded, and the film cuts to the silent reactions of the people he is apologizing to. The complicated emotions on their faces chillingly contextualize the moment in a way the clip misses on its own. It is apparent that some interviewees are glad for the apology, and for others it is too little too late. There is much to unpack but that it happened at all is meaningful and shows some of the fruits of the decades long battle for equality in Canada.

Overall, The Fruit Machine tells a compelling and important story. I believe this film could be incorporated into a variety of psychology or gender and sexuality courses; however, care should be given as the content could be highly triggering for many students. While there is a lot of missing contextual information one would expect from a book on the topic, the film feels complete in its telling of this particular narrative. It is a remarkable piece and one worthy of watching.
The concept of drugs is tremendously enticing. Drugs promise to instantly provide simple answers to highly complex and severe questions about the nature of sickness and pain and how we as a society are supposed to relate and react to both. The rationale of this promise is as follows: Once the biochemical process underlying pain, dying and sickness is properly understood and a substance can be discovered that is able to tackle it according to our wishes, terminal cancer, depression, substance addiction, schizophrenia, chronic pain, anxiety, and obesity suddenly can be reduced to a pill, a nasal spray or maybe an infusion. Our weapon is science; our ammunition the drug—the “magic bullet”—as the chemist Paul Ehrlich famously put it in 1910. All we then need to do is to learn how to “aim better” at sickness and pain.1

On the basis of this rather simple promise and bolstered by early success stories such as penicillin a whole industry rapidly grew since the mid 19th century creating infrastructural path dependencies throughout the socioeconomic order that are still relevant to the development and regulation of new drugs today attracting historians of medicine as well as of the pharmaceutical sciences. Even though the scientific concept of a drug might be a rather simple one, the stories the drugs themselves produced along those pathways and over the years are far from being simple as Lucas Richert elegantly explores in his book suggesting that “it is time to move beyond the pharmaceutical industry (sometimes called Big Pharma) and the Food and Drug Administration in exploring drugs in the 21st century.”2

Drugs have careers and go through phases of success and popularity as well as illegality and devaluation. The specific ups and downs of a drug’s career, as Richert rightfully describes, are not just determined by its underlying science and the relevant clinical tests but also strongly by consumer behavior and demand, by political agendas, cultural developments, and trends as well as economic reasoning. The demand for drugs is very much driven and regulated by narratives and myths surrounding them, and science only plays a minor role in determining these narratives, as Richert suggests. They are sought after even if and maybe because their effect could not be scientifically proven yet as can be observed in the behavior of medical tourists traveling all over the world to get the treatment they desire despite science telling them differently or even warning them. To prove this point, that narratives surrounding drugs inform their careers rather than the science behind them, Richert thoughtfully narrates the turbulent careers of drugs such as heroin, lysergic acid diethylamide (LSD), cannabis, Laetrile, obesity...
pills, and Ketamine focusing mainly on events during the 1960s and 70s even though the book follows up on developments into the early 21st century too. Geographically the book concentrates on developments in Canada, the United States as well as the UK, even though Mexico, Switzerland, and several other countries are mentioned.

And, indeed these specific drugs Richert picked do have impressive careers that make for a good story because they promise a lot while at the same time being rather vague about how they actually work. Nonetheless, there are more humble drugs out there too such as sunitinib for instance and the reader wonders how the careers of such rather boring drugs should be interpreted and told and what that could mean for the more turbulent careers of drugs such as LSD. Typically, boring drugs have been developed more recently and based on the concept of precise biochemical targeting meaning that they are designed with a very narrow range of applications in mind to begin with anyway, that is, for the treatment of specific types of cancers as in the case of sunitinib. Moreover, they usually do not promise miracle cures expect for maybe to extend the life of terminally ill patients for a couple more months for example. This might not seem to be a lot but can provide a patient with one more summer with the family, for example.

The most important point Richert argues with the help of his chosen examples is that we radically need to rethink the roles we actually expect drugs to take on, that is, what general questions can a society’s drugs answer? Richert shows that drugs mean far more than simple relief from pain and sickness within the social order. Drugs epitomize not only responses to freedom-from-questions but rather create freedom-to-questions: The freedom to enhance the human mind and body, the freedom to make spiritual experiences possible, the freedom to control trade, the freedom to pursue one’s political agenda, the freedom to negotiate what health and beauty actually mean, and the freedom to extend one’s life beyond illness. In short, drugs promise the freedom to minimize the impact of context wherever possible. Undoubtedly, the book sheds light on these pressing questions and is highly recommended reading for those with interests in the history of pharmaceuticals.

ENDNOTES


2 P. 6.

Sabine Baier
University of Bern, Switzerland

DOI: 10.1002/jhbs.22026

BATTLE IN THE MIND FIELDS

John A. Goldsmith & Bernard Laks (Eds.)


This book is hard to classify. Even the authors appear unclear about what kind of book it is. At the beginning, they say it is not a history. At the end, they remind the reader of this claim, and suggest that the reader might not, having read the book, believe it. It is certainly a partial history—from somewhere in the 19th century (occasionally earlier) up to 1940—a history, if we are to take the title literally, of the “mind sciences”. But is it? Despite the notionally
equal treatment of linguistics, psychology, philosophy, and logic (and these disciplines are not all of those traditionally included in the cognitive sciences), it is, as the authors readily admit, a history of linguistics. They are linguists themselves and are trying to set certain aspects of contemporary linguistics in context. It is partial in both senses, in coverage and in perspective. The individual reader is bound to disagree with some inclusions and exclusions. Personally, for example, I hoped to see more on the work of Karl Bühler—an important, but neglected, figure in the study of language from a psychological point of view. A contemporary psychology student, looking at standard texts, would be hard-pressed to find mention of Bühler. It is not that he is left out of this book, but other psychologists, behaviorists, for example, who, at least in one sense, dismissed questions about language, are given more space. Conversely, I expected, rather than hoped, to hear more about Benjamin Lee Whorf, though, having read the book, it is clear that his work is only peripheral to its central concerns.

One theme, indeed a major theme, of the book is that whereas there is often continuity in ideas, there is what the authors refer to as "rupture" among practitioners of the disciplines. More particularly, there is a tendency for people to claim intellectual priority for themselves, and to fail to acknowledge that earlier workers, sometimes from other disciplines, have trodden the same ground. People working in the mind fields also sometimes disagree quite violently—intellectually, personally or both. These factors all contribute to the battle referred to in the book's title, though the exact nature of this battle never becomes absolutely clear. Is it, for example, just the battle for intellectual priority?

In relation to the tension between continuity and rupture, the book is the first of two projected volumes, the second of which will take the reader forwards from 1940. The battle(s) described in the present volume will clearly be mirrored in the so-called "linguistic wars" of the 1970s, which have been documented elsewhere, and which will be recounted in the second volume. And one often feels that what is being set up is an argument that, although the behavior of some of the protagonists in those more recent wars has been portrayed in an unfavorable light, those protagonists acted in a tradition of "rupture" that, in the study of language, can be traced back through at least the last 200 years.

While this book is not quite a history, it certainly cannot be considered to be sociology of science, despite its concerns with working practices and relationships within the mind sciences. It does, however, claim to draw inspiration from the sociological work of Pierre Bourdieu, who is mentioned a number of times in the introductory and concluding sections though not in the main historical core of the book. While there is no in-depth analysis, there is a suggestion that his ideas can provide the framework in which continuity versus rupture can be understood. Bourdieu's notion of anamnesis, derived from, but differing substantially from, that of Plato, is alluded to, but its relation to misconceptions about and real or feigned ignorance of previous work, is not fully explored. Neither is there a detailed development of the relation between Bourdieu's notions of field and habitus and the authors' claims about the continuity of ideas.

Turning to the historical account in the central part of the book, the erudition of the authors ensures that there is much that is unexpected and fascinating, at least for the individual reader. In a(n) academic world in which history is often ignored, this much is to be expected. As a psycholinguistic brought up on generative linguistics and formal semantics, I was somewhat surprised at just how much of the progress in linguistics up to 1940 was restricted to phonology and phonetics, with major contributions by leading figures who are primarily known to psychologists for other reasons—Bloomfield, for example, because he was a behaviorist, Sapir for the Sapir-Whorf hypothesis. The Prague School presents a more complicated case. Via its structuralist orientation, it is familiar to developmentalists through its links with Piaget, and some of its work on phonology is current enough to remain important in the psychology of hearing. What I was unaware of was the political orientation, the interest in Turanism and Eurasianism, and the anti-Darwinianism of Trubetskoy in particular, but also, to some extent, of Jakobsen. A quite different, but equally interesting, reminder was of the importance of Husserl's early work in his Logical Investigations, and the fact that he ought to be remembered for more than just phenomenology.

By the authors' own admission, the book has been written over an extended period. That may partly explain its length—the main text is over 600 pages. It may also explain the occasional feeling of discontinuity, with the current
paragraph not always building naturally on what was in the preceding one. Friends of the authors had suggested that this book would be hard to read. However, despite the odd hiatus, it is for the most part well written, so the style is not an issue. In many parts, the book is dense on (historical) facts, and some prior knowledge of the history it covers certainly helps. I did not make as much use of the "family tree" diagrams that the authors presumably hoped I would, and they did not always appear to be entirely consistent with one another, though that was partly because each had its own point to make. I also found the amount of direct quotation alarming in places, though, such quotation can, of course, offer some protection against claims of misrepresentation. Setting these minor points aside, there is certainly sufficient of interest in the book to warrant a place in libraries and on personal bookshelves.

Alan Garnham
School of Psychology, University of Sussex, Brighton, UK

DOI: 10.1002/jhbs.22027

ON THE HEELS OF IGNORANCE: PSYCHIATRY AND THE POLITICS OF NOT KNOWING

Owen Whooley (Ed.)


As I began sociologist Owen Whooley’s provocative On the Heels of Ignorance: Psychiatry and the Politics of Not Knowing, I was reminded of a bit comedian Russell Peters once performed live. Peters asked a physician in the audience what his specialty was. When the man replied that he was a psychiatrist, Peters scoffed: ‘You’re not a real doctor!’ He then said something to the effect that psychiatrists did not really know what mental illness was or how it worked. Whooley’s new book essentially traces how the American psychiatric profession has historically grappled with its knowledge deficits. On the whole, Whooley’s work is a survey of US psychiatry’s history. Yes, plenty of other books have already traced how antebellum asylum-keepers became today’s medication managers. Like some of the much older volumes in that historiography, Whooley’s book also largely relies on the American Psychiatric Association’s own publications as sources, focusing on how psychiatry’s leading stakeholders represented their profession. Nevertheless, Whooley examines this familiar story from a fresh angle: Given that the nature of mental illness, its mechanisms, and its causation are still relatively unknown, uncertain or undiscovered, how has this profession managed to survive for 200 years?

Whooley argues that psychiatry has endured for so long because its leaders have routinely responded to any potential exposure of these persistent knowledge gaps by reinventing their profession—over and over again. Rather than acknowledging that psychiatry has long been rooted in the still-contested assumption that a physical substrate for mental illness exists, its innovators have simply reimagined that relationship between the diseased mind and body. Those changes have often been so radical and stark that psychiatrists regard past approaches to mental illness as just plain wrong, rendering their history a series of fundamental ruptures with a succession of misguided pasts. Consequently, Whooley sees the profession’s history as divided into almost discrete regimes or paradigms, each a reaction to the previous paradigm’s inadequate attempts at masking psychiatry’s knowledge gaps.

Each chapter examines a different historical paradigm within psychiatry’s past. Most of the eras he identifies conform to the historical phases most historians of psychiatry recognize. What differs is chapter design. Each chapter highlights how each era’s new approach to mental illness proved to be little more than an epistemological band-aid for psychiatry’s failure to discover the physical underpinnings of mental illness. Chapter one begins with the asylum era. Moral treatment was rooted in two unproven assumptions: that all mental illness was physical in origin and that it required little more than
On the Heels of Ignorance is an innovative, carefully argued and marvelously executed work. It is not a screed against psychiatry. His appendix itemizes the myriad strategies psychiatrists employed in managing their gaps in knowledge, making it clear that other professions have used them as well to shore up their claims to expertise. Now in any survey this ambitious there are bound to be omissions and oversimplifications. I expect that historians of the psychological sciences will find his chapter on community psychiatry most problematic. His contention that it constituted a distinct paradigm shift was not altogether convincing, especially considering that Whooley fails to mention social psychiatry, family therapy, child guidance, ethnopsychiatry, Engel and Romano’s biopsychosocial model, and other socially-oriented modalities that developed in the postwar era. Those problems aside, this is a thought-provoking work that merits a wide readership and inclusion on sociology and history syllabi.

Dennis Doyle
Department of Liberal Arts, St. Louis College of Pharmacy, St. Louis, Missouri

DOI: 10.1002/jhbs.22028

THE EARLY HISTORY OF INDUSTRIAL AND ORGANIZATIONAL PSYCHOLOGY

A. J. Vinchur

The Early History of Industrial and Organizational Psychology is, in Andrew Vinchur’s own words, "primarily a work of synthesis," written from the perspective of a psychologist-historian. To read this book in any other way would be to
do a disservice to its author and the important contribution he has made to a topic in desperate need of further research. Vinchur’s account of the formative decades of industrial–organizational (I–O) psychology is discursive, blending a roughly chronological narrative with intermittent profiles of important biographical figures, technical descriptions of methodological innovations and testing practices, and reflections on parallel developments across the globe. Appropriately situated against the backdrop of industrialization, urbanization, and progressive era concerns with efficiency and order, Vinchur follows I–O’s development from the new laboratory psychology of the late 19th century and the psychology of individual differences at the turn of the 20th (Chapters 2–3), to the prewar courtship and dalliances of psychology and industry, mobilization of psychological testing during First World War (Chapters 4–5), the postwar intensification of industrial activities, subsequent retrenchment, international expansion (Chapter 6), stabilization in the domain of employee testing (Chapter 7), and finally the institutionalization and professionalization of I–O through to the present (Chapters 8–11).

In Chapter 1 Vinchur positions himself between the poles of Loren Baritz’s Servants of Power (Baritz, 1960) and E. G. Boring’s History of Experimental Psychology (Boring, 1929, Boring, 1950). While he finds Baritz’s characterization of the subservience of industrial psychology to industry be a productive although one-sided critique, Boring is read as enacting his own intradisciplinary boundary work by omitting altogether the applied research he so famously disdained. By contrast, Vinchur seeks a middle way, one that borrows Baritz’s sensitivity to rich contextualism and reveals I–O’s early years from beneath the historiographic penumbra cast by Boring’s History of Experimental Psychology.

Unfortunately, Vinchur’s cautionary "tale of two histories," falls short of capturing the full range and complexity of the relevant historiography. The vast majority of the secondary literature and published primary sources that are the building blocks for Vinchur’s own historical narrative are almost entirely by psychologist-historians. This lack of engagement with the work of historians of science and technology, intellectual historians, among other humanists will leave readers from these disciplines wanting for more. Among the most conspicuous omissions given their relevance to the subject at hand are Anson Rabinbach’s The Human Motor (Rabinbach, 1992), Elspeth Brown’s The Corporate Eye (Brown, 2005), Zenderland’s Measuring Minds (Zenderland, 1998), O’Donnell’s The Origins of Behaviorism (O’Donnell, 1985), John C. Burnham’s Accident Prone (Burnham, 2009), David Noble’s America By Design (Noble, 1979), and Nikolas Roses’ Inventing Our Selves (Rose, 1996), to name only a few.

Chapter 4, “Initial Forays Into Industry,” is where the real work of Vinchur’s book begins. While there are a handful of scholarly articles on early psychological excursions into business and industry, Vinchur manages to assemble this piecemeal historiography into a compelling overview of the deepening alliance between psychology and industry in the prewar period. Hugo Münsterberg, Walter Dill Scott, and Harry Levi Hollingworth are given detailed profiles that befit their contemporary influence over applied psychology.

Vinchur’s subsequent discussion of psychologists’ mobilization during the war under the leadership of Robert Yerkes and Walter Dill Scott distills important work on the subject by Kevles (1968), Capshew (1999), and Samelson (1977), while neglecting the contributions of others (Carson, 1993). In contrast, Chapter 6 offers a birds-eye-view of the global efflorescence of industrial psychology and psychotechnics. Although breadth of coverage (16 countries across four continents) takes precedence over detail, future scholars on the subject should, nevertheless, take note of the countless opportunities for future research that Vinchur has outlined.

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Lori Schmied


With The advance of neuroscience: Twelve topics from the Victorian Era to today, psychologist and professor Lori Schmied presents a dozen essays on various topics in which she aims to show continuities between historical and contemporary efforts to understand brain and mind. Unburdened by the traditional historian’s concern to avoid interpreting the past on present-day terms, Schmied instead seeks to engage the reader by making contemporary topics historical. “The purpose of this book is not to rehash” older theories “but to juxtapose [those] assumptions and concepts with contemporary views.” (6) Overall, Schmied’s approach offers little fresh or original historical insight but it may please readers who enjoy science writing that mingles past and present.

The Advance of Neuroscience consists of 12 chapters, each devoted to a different topic. These topics range from addiction to mind-altering drugs to the use of brain imaging techniques. In each chapter, Schmied identifies a facet of the history of neuroscience that seems most relevant to our contemporary understanding and links that historical material to these later views. Some historical linkages are unremarkable: There is an obvious continuity between the historical practice of prescribing opiates and present-day opioid medication and its hazards. With other topics, Schmied must work harder to find a predecessor that can usefully illuminate present-day concerns. Partly the problem is nosological. Like any other historical object, disease entities come and go. Little in modern psychology clearly corresponds to so-called “neurasthenia,” for instance, so Schmied must limit her discussion to
recontextualizing part of neurasthenia’s history, the reception of Silas Weir Mitchell’s “rest cure.” To do this, she considers Charlotte Perkins Gilman’s criticism of the “rest cure” in her novel The Yellow Wallpaper (1892) before shifting to feminist reappraisals of both the novel and its sources in the 1970s. Schmied does not historicize these later debates, now more than 50 years old, nor does she update them extensively, despite the extensive literature on the psychiatric mistreatment of women.

Two aspects of this book, both derived from Schmied’s professional understanding of psychological illness, diagnosis, and treatment, deserve notice. Her comparison of phrenology with modern brain imaging (functional magnetic resonance imaging [fMRI]) couples sensible observations about the limits of fMRI with her reflections on the primacy of visual evidence in the history of the localization of mental functions. In conclusion, she cautions against “blind acceptance of the technologies without examining the underlying assumptions and theories,” at least some of which may, like phrenology, be “relegated to the realm of pseudoscience.” (31) Schmied also rightly notes that few early investigators of psychological ailments reliably distinguished an original disease process from subsequent illness brought on by treatment itself. As Schmied reconsiders historical case studies and similar anecdotes, she points out where symptoms were consistent with withdrawal from the alcoholic and opioid substances used as first-line treatments in the first place. Practitioners were strikingly insensitive to this obvious connection, and their obtuseness would provide a wonderful point of departure for more in-depth historical study.

The book suffers from substantial weaknesses. Historians seeking a comprehensive overview of the history of neuroscience will be disappointed in Schmied’s cursory engagement with this extensive literature. Her bibliography is idiosyncratic, mingling recent scientific papers with a variety of historical analyses, some rather dated. In connection with her essay on phrenology and brain imaging, I was particularly puzzled by her omission of such landmark studies of medical imaging as Joseph Dumit’s Picturing Personhood: Brain Scans and Biomedical Identity (2004) and Bettyann Kevles’ Naked to the Bone: Medical Imaging in the Twentieth Century (1996), to name just two. Classic histories of psychiatry, such as Jan Goldstein’s Console and Classify, have also been omitted, which is a pity because these histories lay out the broader context of the identification of disease entities like neurasthenia. Although Schmied is not wrong to complain that American policy-makers have “traditionally used the moral model of addiction and thus criminalized the behavior” (126), she seems unaware of recent shifts in treatment paradigms as detailed, for instance, in Michael Stein, MD’s widely reviewed memoir of addiction treatment, The Addict: One Patient, One Doctor, One Year (2009). Of course, this list of omissions is also idiosyncratic, reflective of my own reading and research; and no book of this scope could hope to cover every relevant literature in depth. But broad conceptualizations of a research project are not licenses to skim on due diligence regarding the secondary literature.

The book would have benefited from better editing. It seems to have been written in such tremendous haste that the author simply omitted key prepositions and other connective material essential to precise articulation. For instance, to explain the shift toward greater acceptance of opiates among medical practitioners, Schmied writes that “What changed was first rise of the hospice movement in the 1960s”—this is just one example of such befuddling omissions. Errors and infelicities abound, ranging from straightforward misspellings (e.g., “commingled” for “commingled”) to failures of syntax and idiom. These can be overlooked when they do not interfere with meaning, but the errors at times left me quite mystified. Worse, in her haste, Schmied often says things she does not intend. Her chapter on “You Are What You Eat: Gut and Brain” opens by alluding to the difficulty of menu planning nowadays. “Guests may be vegetarian, vegan, pescatarian, and/or follow gluten-free, paleo or any number of popular diets,” she writes. “Individuals may have life-threatening nut or seafood allergies, celiac disease, or be lactose-intolerant, all of which results in gastric discomfort.” (127) Well, yes—and death, at least in the case of the life-threatening allergies. Schmied, of course, does not intend to mislead, but the lapsed parallelism and the overly broad “all of which” lead her into trouble. Where is Lynne Truss when you need her?

Introductory courses in a scientific field can be deepened by attending to the historical underpinnings of the material. Written differently, this book might have been a solid subsidiary text of this sort, appropriate for an introductory neuroscience or psychology course. There is certainly a need for such texts, if for no other reason than...
to balance the offerings of writers like Antonio Damasio, whose emphasis on the big picture—the nature of consciousness, the relationship between mind and brain—elides many interesting aspects of actual neuroscientific investigation. But this book, alas, may not be the solution. The cost ($55 for the paperback) is high, and while popular works have their flaws, they may be more cost-effective guides to the relevant materials, technologies, problems, and histories.

Diane Josefowicz

Science and Technology Editor of The Victorian Web.