



Book Review

Book Review of *Anesthesia: the Gift of Oblivion and the Mystery of Consciousness* by Kate Cole-Adams, Counterpoint Press, Berkeley, CA, 2017, 408 pages, \$19.22. ISBN-10: 1619029502

Partly a memoir and partly a narrative of history, *Anesthesia: the Gift of Oblivion and the Mystery of Consciousness* is written for a general audience. The author is a journalist and novelist prompted to examine anesthesia and consciousness by her own experience as a patient undergoing spinal surgery. Her research included interviews with other patients and with physicians.

In her prefacing remarks, Kate Cole-Adams introduces South African psychiatrist Bernard Levinson, who, in 1965, had conducted what Cole-Adams judges to be “one of medicine’s oddest studies.” It would have been fairer to call it intriguing. The experiment involved 10 “surgical patients as unwitting guinea pigs.” The selected patients were preoperatively deemed easy to hypnotize. Those patients were anesthetized for dental surgeries with diethyl ether. Under ether, a dreadful script was read to them: “Just a moment! I don’t like the patient’s color. Much too blue. His [or her] lips are very blue. I’m going to give a little more oxygen.” Levinson claimed that, under postoperative hypnosis, 4 of the 10 patients could quote some of the words of the mock crisis, and 8 of the 10 were “upset and agitated during questioning.”^{1,2} The study was intriguing, and it was both ethically and scientifically problematic by present standards.

There was a particularly interesting follow-up study by New York psychologist Henry L. Bennett in 1985.³ Bennett verbally prompted anesthetized patients to pull on their ear during postoperative interviews. The idea was that patients might act on subconsciously remembered commands that might not be explicitly remembered. According to the book, it was Bennett who later prompted Edmond I. “Ted” Eger II (1930–2017) to further revisit the Levinson study.

Cole-Adams interviewed Eger, whom she dubs “the most famous anesthesiologist in the world.” (Eger did not claim such a title but plausibly boasted of grand mastery in checkers.) Eger is of course interesting, as is the depiction of him. He was contacted “partly because he did not believe that a properly anesthetized patient could remember anything (consciously or otherwise) and mostly because ... he had headed the team that set out to repeat the unrepeatable experiment and put Bernard Levinson’s startling thesis to the test.”⁴

As in the Levinson study, hypnotizable subjects were read a scripted crisis under anesthesia. Interestingly, Eger added a bit of salty language. Diethyl ether was replaced by either propofol or desflurane. There was no surgery, but endotracheal tubes were inserted. No recall of the mock crisis was evinced under postoperative hypnosis. The anesthetic drugs were different, but there were also blinding and control measures. Eger said to Cole-Adams, “And that’s what science is. It’s the ability to replicate something. If you can’t replicate something it’s not real. I think things do happen by chance, but if you can’t replicate it, if it isn’t robust enough to replicate, it doesn’t exist.”

Actually, the matter was not absolutely settled, in part because of what Levinson told Cole-Adams was “the very flaw of that experiment that Ted Eger and I did.” Levinson proposed that anesthetized volunteers were psychologically different from actual patients.

There are some Eger anecdotes. For instance, like many of his generation, he was inspired by the medical writer Paul de Kruif. Cole-Adams recounts how, in the 1960s, about when Levinson was staging his mock crisis study, Eger “set out to solve a problem so basic it seems astonishing that nobody had done it before.” Eger and colleagues of course began the tricky business of finding minimum alveolar concentrations of inhaled anesthetics at which patients did not move in response to skin incisions.^{5–8} There is a bold aspect of inviting

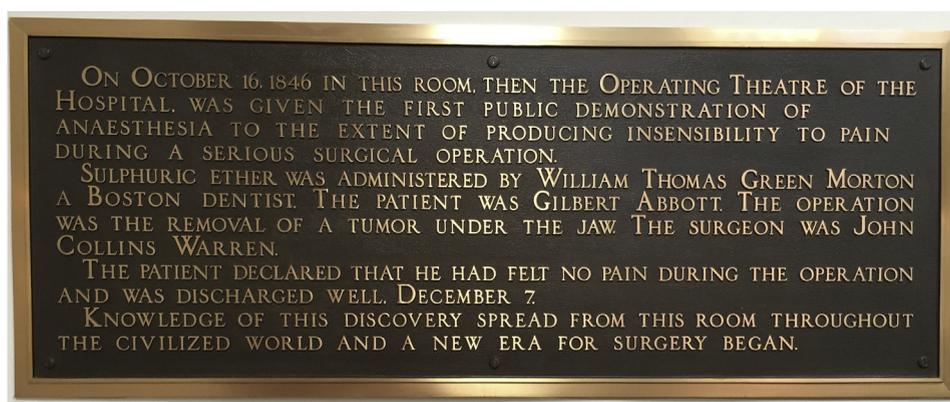


Fig. 1. This plaque is mounted within the Ether Dome of the Massachusetts General Hospital in Boston. E. Gilbert Abbott (1825–1855), the etherized patient of October 16, 1846, had no intraoperative pain but may have had intraoperative awareness. Of course, as inhaled anesthesia was a novelty at the time, Abbott might have expected awareness and reported it on that basis. In any event, he was satisfied enough to spend 7 more weeks in the hospital, which continues to serve good food.

anesthetized patients to move in response to an incision. However, the investigators were aptly confident that awareness is blocked at anesthetic doses that do not ensure immobility.

Academic anesthesiologists who weigh in and give historical perspectives in the book include Daniel B. Carr, Emery N. Brown, and George A. Mashour. Cole-Adams also brings together many historical figures in a smooth narrative. For instance, the book brings up the question of intraoperative awareness on Ether Day in 1846 (Figure 1).⁹ It is interesting that the account by Henry Jacob Bigelow of the first public demonstration of inhaled ether for a surgical procedure was worrisome as to intraoperative awareness. Cole-Adams quotes Bigelow as writing, "During the operation the patient [Gilbert Abbot] muttered, as in a semi-conscious state, and afterward stated that the pain was considerable; in his own words, as though the skin had been scratched with a hoe."¹⁰ She correctly writes, "While there was no doubting that it was a great improvement on the alternative, Gilbert Abbott's mind had not, as it turned out, been detached from his body; not fully." Indeed, the Bigelow description of Ether Day is only a little more encouraging than the premonitory demonstration of nitrous oxide for a dental extraction in Boston, an event supposedly decried as humbug.

Although the depth is not technical, there is ample provision of helpful references. The book has no diagrams or photographs, but the prose is vivid. Many students of anesthesia and of medical history will enjoy the way that Cole-Adams weaves eclectic material into a coherent saga. The book may steer casual students to the eloquent narratives that Eger himself expertly composed.

Jason Zhensheng Qu
Theodore A. Alston
Harvard Medical School at the Massachusetts General Hospital
Boston Medical Library
E-mail address: jqu@mgh.harvard.edu

<https://doi.org/10.1016/j.jan.2018.08.006>

References

1. Levinson BW. States of awareness during general anaesthesia. Preliminary communication. *Br J Anaesth*. 1965;37(7):544–546.
2. Levinson B. The states of awareness in anaesthesia in 1965. *SA Fam Pract*. 1989; 517–521.
3. Bennett HL, Davis HS, Giannini JA. Non-verbal response to intraoperative conversation. *Br J Anaesth*. 1985;57(2):174–179.
4. Chortkoff BS, Gonsowski CT, Bennett HL, et al. Subanesthetic concentrations of desflurane and propofol suppress recall of emotionally charged information. *Anesth Analg*. 1995;81(4):728–736.
5. Merkel G, Eger II EI. A comparative study of halothane and halopropane anesthesia: Including a method for determining equipotency. *Anesthesiology*. 1963;24(5): 346–357.
6. Saidman LJ, Eger II EI. Effect of nitrous oxide and of narcotic premedication on the alveolar concentration of halothane required for anesthesia. *Anesthesiology*. 1964;25(5): 302–306.
7. Eger II EI, Saidman LJ, Brandstater B. Minimum alveolar anesthetic concentration: A standard of anesthetic potency. *Anesthesiology*. 1965;26(6):756–763.
8. Eger II EI. A brief history of the origin of the minimal alveolar concentration (MAC). *Anesthesiology*. 2002;96(1):238–239.
9. Vandam LD, Abbott JA. Edward Gilbert Abbott: enigmatic figure of the ether demonstration. *N Engl J Med*. 1984;311(15):991–994. <https://doi.org/10.1056/NEJM198410113111522>.
10. Bigelow HJ. Insensibility during surgical operations produced by inhalation. *Boston Med Surg J*. 1846;35(16):309–317.