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Humphry Davy

To the Editor:

Riegels and Richards stated that the goal of their article on Humphry Davy (1778–1829) was to demonstrate that Davy should be regarded as the "first anesthesiologist."[1] However, after consideration of a number of the facts regarding Davy, I believe that his experiments with nitrous oxide did not directly contribute to the development of modern inhalational anesthesia, and I would hesitate to anoint him as the "first anesthesiologist."

The idea of producing insensibility to facilitate surgical procedures is not new. Many ancient societies used soporific agents and nonpharmacological techniques to produce insensibility before surgical procedures. Sixteenth-century chickens may,[2] or may not have been,[3] the unwilling and pioneering recipients of diethyl ether at the hands of Paracelsus (1493–1541).

There is no doubt that Davy was a brilliant chemist. He was also young and reckless. He engaged in dangerous self-experimentation involving a variety of potentially toxic chemicals. Some of these trials could have resulted in his premature death, which would have deprived us of one of the most quoted sentences in the anesthesia literature. The quotation regarding the use of nitrous oxide for surgery is from the eighth page (page 556) of a 12-page conclusion of the fourth and final section of Davy's book on nitrous oxide.[4] Ironically, in some additional pages (pages 577–580) at the end of the book, Thomas Beddoes (1760–1808) has written a "Proposal for the preservation of accidental observations in Medicine."[4]

Davy inhaled nitrous oxide several times a day over a period of months, for "scientific" reasons, and possibly for "pleasure." Riegels and Richards did not discuss whether they considered if Davy had become addicted to nitrous oxide; this would be one of the earliest, if not the first, documented addiction to nitrous oxide.

Horace Wells (1815–1848) and William T. G. Morton (1819–1868) encountered distressing pain in most of their patients, and were motivated by the desire to reduce it. In addition, Morton also saw the prospect of financial benefit in alleviating pain.[5] Davy's apprenticeship with a surgeon-apothecary, John Borlase, may have led him to contemplate the advantages of nitrous oxide in surgery, but there is no evidence that he approached any surgeon to trial the agent.

Davy's failure to pursue clinical trials of nitrous oxide for surgery could be equated to the failure by Charles Thomas Jackson (1805–1880) to promote ether for surgical procedures. Jackson claimed in 1847 that he had thought of using ether to produce insensibility in 1842,[5] nearly 5 yr before Morton's first trial of ether. Jackson did not approach his surgical colleagues, and continued with his work in chemistry and geology. Unlike Davy, however, there was no contemporaneous documentation by Jackson of his initial thoughts on ether as an inhaled anesthetic agent.

Davy's description of the pleasurable effects of nitrous oxide was soon followed by other accounts of the inhalation of nitrous oxide, and increasing public interest in doing so. More than four decades separate Davy's research involving nitrous oxide and the first deliberate use, by Horace Wells, of nitrous oxide to produce insensibility. In that period, countless medical students and medical practitioners used nitrous oxide and ether for recreational purposes without considering them suitable for use during surgery. Davy experienced the analgesic effects of nitrous oxide and envisioned its potential use for surgery, but failed to follow up on it. There is no evidence that Davy's research contributed directly to the development of nitrous oxide as an anesthetic agent. His research involving nitrous oxide and other gases established him as major scientific figure, and may have contributed to his move away from medicine. Perhaps there were too many things for Davy to discover. The brilliant young scientist seems to have moved quickly from one discovery to another, and eventually away from medicine into chemistry.

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In Reply:

Haridas rejects our assertion[1] that Humphry Davy might be considered the first anesthesiologist. Curiously, Haridas avoids any mention of Davy's groundbreaking experimental results, not only as they pertain to nitrous oxide, but also in