

# Alexander Lesassier Hamilton's 1816 report of a controlled trial of bloodletting

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## Introduction

In 1816, a military surgeon – Alexander Lesassier Hamilton – used his Edinburgh University MD thesis on fever to describe an experiment in which rotation had been used to create comparison groups in an assessment of the effects of bloodletting.<sup>1</sup> The experiment reported by Alexander Lesassier Hamilton took place when he was serving in the (allied) Portuguese Army during the Peninsular War. It involved 366 sick soldiers treated by three surgeons, one of whom used bloodletting, two of whom (including Lesassier Hamilton) did not. Rotation was used to assign the patients to one of the three surgeons, thus generating similar comparison groups. The crucial paragraph (which is at the very end of Lesassier Hamilton's MD thesis) reads as follows:

It had been so arranged, that this number was admitted, alternately, in such a manner that each of us had one third of the whole. The sick were indiscriminately received, and were attended as nearly as possible with the same care and accommodated with the same comforts. One third of the whole were soldiers of the 61st Regiment, the remainder of my own (the 42nd) Regiment. Neither Mr Anderson nor I ever once employed the lancet. He lost two, I four cases; whilst out of the other third [treated with bloodletting by the third surgeon] thirty five patients died.<sup>1</sup>

Lesassier Hamilton, like James Lind before him, clearly appreciated the need to try to hold constant factors other than bloodletting in the three comparison groups, and the ten-fold higher death rate after bloodletting is certainly very striking.

## Who was Lesassier Hamilton, and how did his report of a controlled trial come to light?

Although Lesassier Hamilton had Edinburgh 'dynastic' connections, he could be described as an outsider. He was the son of Pierre Lesassier, a French doctor, and Christina Hamilton, eldest daughter of the Edinburgh University professor of midwifery, Alexander Hamilton. Alexander Hamilton's son James, who succeeded his father as professor of midwifery and was President of the Royal College of Physicians of Edinburgh between 1792 and 1794, was Lesassier Hamilton's uncle.

How is it that this experimental evidence of a ten-fold higher death rate attributable to bloodletting reported by Lesassier Hamilton has only recently come to light? Sometime in the 1830s, in a hiatus between two court actions, an Edinburgh solicitor, John Gibson, lodged in the Royal College of Physicians of Edinburgh a trunk containing Lesassier Hamilton's difficult-to-decipher diary and other papers.<sup>2</sup> There the trunk remained, undisturbed, but stored safely and listed in the manuscript catalogue, until 1987. In that year, the then College Archivist, Joy Pitman, catalogued the archive in detail and wrote about it in the College Journal.<sup>3</sup> The fascinating story she had uncovered was so intriguing that an American historian, Lisa Rosner, wrote a book based on the Lesassier Hamilton papers.<sup>4</sup> Among the manuscripts are papers about Lesassier Hamilton's Edinburgh medical studies and his Army Medical Department service in the Peninsular War. However, his very detailed diaries do not include any mention of a bloodletting trial which features at the very end of his graduation MD at Edinburgh.

The Lesassier Hamilton archive also contains materials that explain why the solicitor representing

Lesassier Hamilton's wife had lodged them at the College. The court action was for a divorce, and the papers contain an extraordinary record of Lesassier Hamilton's numerous extra-marital adventures. As his numerous female partners, creditors and professional colleagues discovered, Lesassier Hamilton was not always entirely reliable.

### Did the trial that Lesassier Hamilton reported actually take place?

Can we be sure that the trial that Lesassier Hamilton reported in his MD thesis actually took place? Lisa Rosner, Lesassier Hamilton's biographer, is dismissive, concluding that 'It is almost certainly a fabrication'.<sup>4</sup> Lesassier Hamilton's colleague, Mr Anderson, certainly served in the Peninsular War,<sup>5</sup> but other evidence in Lesassier Hamilton's diaries suggests that unreliability as an unfaithful husband and a debtor was not reflected in his intellectual and professional activities.

Lesassier Hamilton was a voracious reader, and a novelist, and the local library was the first stop he made in any town in which he was stationed.<sup>4</sup> For example, he noted that the library in Aberdeen was able to supply all the useful magazines and London newspapers, and contained 'a circulating library containing 60,000 volumes, including all new works'; and that Armagh, although 'a poor looking, ill-built place', had a library of '80,000 Volumes...open gratis to readers from 11 till 2 o'clock PM'.

The diaries also show that he liked record keeping. Not only did he keep careful accounts of his travels,<sup>4</sup> he recorded the name, age, diseases, diet and treatment of each of the patients for which he was responsible.<sup>4</sup> He required each of the hospitals under his charge to submit 'returns, tickets and case books' of the sick and wounded by 7:00 every day.<sup>4</sup>

The obsessional character of Lesassier Hamilton's military medical work was appreciated by James McGrigor, the director of medical services during the Peninsular War. He was an administrative reformer who made clear the importance he attached to accurate record keeping.<sup>6</sup> McGrigor reported his satisfaction with the zeal of the hospital staff, and Lesassier Hamilton was publicly commended for the quality of his hospital administrative work. He was one of only two British surgeons in the Portuguese army to achieve the distinction of being cited in general orders.<sup>4</sup> Indeed, George Guthrie,<sup>7</sup> who was otherwise highly critical of the medical service, went so far as to say that as the Portuguese army 'reached the summit of the Pyrenees... Its medical department approached perfection'.<sup>4</sup>

After Lesassier Hamilton's return to Edinburgh to study for his MD degree, he wrote in his diary:

Nothing more effectually promotes happiness, than occupation... About 6 o'clock in the morning, my daily task began; & I seldom retired before 1-2 past 11 at night. During the whole of this time, every hour was passed strictly according to an exact distribution of the day, previously noted on a Card. Of these 18 hours, 4 were dedicated to the Classics; the remainder was spent between the four Lectures I attended, & my reading... my Notes, alone, amounted to 1249 close written large octavo pages. Thus busied, it must be avowed, that the time never seemed half so short before; & the future prospect of establishing myself slowly... by the gradual efforts of my own industry, insensibly assumed a more pleasing appearance. I became somewhat reconciled to my situation; & looked around me with a more unprejudiced eye.<sup>4</sup>

Although pamphlets recommending bloodletting were still being written by serving officers in 1813, and William Osler continued to recommend it for pneumonia a century later,<sup>8</sup> we have no strong reasons to doubt the veracity of Lesassier Hamilton's account of a controlled trial. Furthermore, we have evidence suggesting that testing a treatment in this way would have been consistent with some of his other, rather obsessional traits. Even if Lesassier Hamilton's account of a bloodletting trial was fabricated, it is still remarkable that he chose to describe the experiment in the terms that he did, particularly if he judged that his description of alternation and standard conditions would impress the examiners for his degree and his other readers.

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