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# FLORENCE NIGHTINGALE

(1820–1910)

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## **The legend**

The popular perception of Florence Nightingale as a romantic heroine ignores her achievements as an educationist. The Nightingale legend nevertheless had an educational impact. It popularized nurse training, which led to the establishment of a new profession for women. While the legend has remained an important part of nursing culture worldwide, it has served to hinder a deeper understanding of Florence Nightingale.

Florence Nightingale rose to fame for nursing the sick and wounded during the Crimean War (1854–56). After the war, she might have taken a high-profile post as a hospital matron and superintendent of nurse training. Instead, she retired from public life to use her influence to campaign and promote educational schemes. Her impact was probably greater for choosing to influence policy rather than exercising power. Florence Nightingale wrote 200 books, reports and pamphlets after the Crimean War, which had a profound effect on army health, welfare in India, civil hospitals, medical statistics and nursing. Her greatest educational contributions were in the establishment of new institutions for the training of army doctors and hospital nurses, but some of her lesser-known educational schemes are illuminating.

Florence Nightingale has been studied as a reformer, statistician, administrator and researcher, but studies of her impact on education have remained limited. The main history of Nightingale nurse training (Baly, 1986) ignores the broader context of Florence Nightingale's educational views to focus on the often fraught administrative history of the early Nightingale School for nurses.

It is not surprising that there should exist many common threads uniting the various aspects of education with which Florence Nightingale was involved. Her own education and training had no outlet until the age of 31. She felt driven to make some practical use of her education and, consequently, her early letters, notes and booklets continually refer to the purposes of education and criticize the education available to women in her age. Taking these early writings and her later promotion of training schemes, it is possible to claim that Florence Nightingale was a great, if unrecognized, educationist.

## **Her early life**

Florence was born in 1820, the second child of William and Frances Nightingale, a wealthy couple who both came from Unitarian backgrounds (i.e. they were dissenters from the established Church). She grew up at a time of intense social change surrounded by liberal and reforming ideas. Her maternal grandfather, William Smith, was a Member of Parliament for forty-six years and was one of those who campaigned successfully for the rights of religious

dissenters and for the abolition of the slave trade. With a number of family members connected to politics, she naturally had a keen sense of involvement in the great affairs of her day.

The education of Florence and her elder sister, Parthenope, was supervised by their father, who had been educated at the University of Cambridge. His curriculum included Latin, Greek, history, philosophy, mathematics, modern languages and music. William Edward Nightingale held advanced ideas about the improvement of society and the education of women, consequently his daughters' education was invested with a seriousness more often accorded to sons. While Parthenope preferred sketching, Florence was a natural academic. It is a mark of the depth of Florence's learning that in later life she was able to give substantial help to Benjamin Jowett in his translation of Plato's *Dialogues*.

For a young woman of Florence's social standing, the opportunities to make use of her education in a practical sense were strictly limited. From her teens, she began to sense a conflict between the pleasures of the family's lively social life and her inner desire for action.

## Her 'calling'

At the age of 17, a private note records, she had a mystical experience,<sup>2</sup> her 'calling', a pivotal experience which gave her strength in her conviction that she was not destined for a conventional life. In her twenties, she increasingly came into conflict with her family over the question of marriage, but she tenaciously maintained her independence. It was difficult to find a suitable sphere of activity into which Florence Nightingale could channel her intellect and abilities. At the age of 30, she recalled the frustration: 'During the middle portion of my life, college education, acquirement [of knowledge] I longed for—but that was temporary'. When Queen's College was opened in 1848, offering a new higher education for women, Miss Nightingale had not been interested; she had already been seeking a sphere of action, an outlet for her already considerable education. She wrote:

[...] the first thought I can remember & the last was nursing work & in the absence of this, education work, but more the education of the bad than of the young. But for this, I had no education myself (Vicinus & Nergaard, 1989, p. 30).

In 1845, in search of some practical means of learning about nursing, Florence had asked her parents' consent to nurse at Salisbury Infirmary, where a family friend was head physician. Permission was refused, not because of specific objections to the hospital but because her parents considered the work unsuitable for a lady of Florence's social standing. 'It was as if I had wanted to be a kitchen maid,' she commented. Her bitter conclusion was that only widowhood or poverty could give an educated woman a reason to work. In this bleak period she was given some encouragement by Dr Samuel Gridley Howe, the American pioneer of schooling for blind people. He advised her to persevere with nursing despite the consternation of her family and friends.

While in London in 1848, Florence had the opportunity to teach poor children (her 'little thieves') for several months at the Ragged School in Westminster. The experience opened her eyes to poverty and she felt she could do some good, but was once again held back by family objections: 'if only education could be conducted without reference to what people think or do not think but only to abstract right and wrong, what a difference it would make!' (O'Malley, 1930 p. 151).

## A turning point

In 1849, Florence embarked on a cultural tour of Egypt and Greece, taking time to make some detailed notes on the social conditions and archaeological sites. While returning through

Germany, the party visited Kaiserswerth, near Dusseldorf, where in 1836 Pastor Theodor Fliedner had founded a hospital, orphanage and school. The institution was staffed by 'deaconesses' trained by Fliedner and his wife Caroline. At the age of 30, 'the age at which Christ began his mission', Florence returned to train as a nurse at Kaiserswerth against strenuous family opposition.

Miss Nightingale proved herself a pupil of outstanding ability and after three months of training Pastor Fliedner invited her to publish an account of life at Kaiserswerth for the English readership (Nightingale, 1851). For her part, Florence was keen to promote Kaiserswerth as a place where women could find useful education. The booklet, published anonymously, begins with a critique of contemporary women's education:

[...] while the intellectual foot has made a step in advance, the practical foot has remained behind. Woman stands askew. Her education for action has not kept pace with her education for acquirement (ibid., p. 3)

As early as 1846, in correspondence with her father, Florence had developed this theme with regard to education in general and it is interesting that she foresaw no easy formula to adjust the imbalance between theory and practice. Her idea was that 'trials must be made, efforts ventured—some bodies must fall in the breach for others to step upon . . .' (Vicinus & Nergaard, 1989, p. 30). It is worth bearing this remark in mind when we examine the origins of the Nightingale School fourteen years later.

Florence Nightingale found no immediate outlet for her new-found training and on her return from Kaiserswerth in 1851 she drafted what she referred to as her 'religion to the working tailors'—a philosophical discourse privately printed ten years later as the three volumes of *Suggestions for thought for searchers after religious truth* (Nightingale, 1860b).

In a semi-autobiographical chapter entitled 'Cassandra', which remains a key text in nineteenth century women's history, she made an impassioned plea for a new type of education: 'Women long for education to teach them **to teach**, to teach them the laws of the human mind and how to apply them. . . .' (Nightingale, 1860b, p. 391). It was typical of Florence Nightingale that, after voicing her idealism, she went on to sound a note of pragmatism: 'and knowing how imperfect, in the present state of the world, such an education must be, they long for experience, but experience followed up and systematized.'

Between 1851 and 1854, she supplemented the practical experience gained at Kaiserswerth by visiting hospitals throughout the United Kingdom and Europe and collecting information. She systematized her experiences by analysing and reflecting on hospital reports and government publications on public health.

When she visited the newly-built Lariboisière Hospital in Paris in 1853 she was favourably impressed by the wards, which were built on the pavilion plan. The wards were specifically designed to admit light and fresh air while allowing 'noxious airs' or 'miasmas' to disperse between the long, narrow ward blocks. Her research into the reduced mortality at the Lariboisière served to confirm the validity of the 'miasma' theory. The theory stated that disease arose spontaneously in dirty and enclosed spaces. Since the 1830s, this had been the basis for improvements in public health in the United Kingdom, such as the laying of sewers and the provision of clean water supplies to the cities. Few of the public health or 'sanitary reformers', as they were known, were doctors; many were civil engineers, and Edwin Chadwick, the chief sanitarian of the day, worked in insurance. In 1858, Louis Pasteur identified germs and proved that disease did not simply arise spontaneously. From that point, medical scientists contested the reformers' agenda but, although the sanitarians' premises were wrong, it can still be claimed that their conclusions were correct and that their reforms were valid.

Florence Nightingale's emphasis on hygiene in the Crimean War (1854-56) and the importance she placed on the nurse's role in the management of the environment can be traced

largely to her understanding of the causes of disease. She may be distinguished from the miasmaticists of her day by the idiosyncratic connection she made between her scientific and religious views. She believed that God created miasmatic disease in order that Man should learn its causes through observation, and then prevent its recurrence through management of the environment. Consequently, she believed that nurses, with their responsibility for maintaining hygiene, had a unique opportunity for spiritual advancement, discovering the nature of God by learning his 'laws of health' (Nightingale, 1873). Florence Nightingale considered that she had not been taught about the nature of disease, not even at Kaiserswerth, but had learnt through experience, observation and reflection. Thus, when called upon to organize nurse training, she sought to replicate the conditions by which she had learned the 'self-evident' facts of disease.

It was not until August 1853 that Florence Nightingale took up her first employment, a post which at last gave her the scope to apply her knowledge and training. She became Lady Superintendent of an Institution for Sick Gentlewomen at no. 1 Upper Harley Street in the West End of London, where she remained till the outbreak of the Crimean War. At Harley Street she proved herself a brilliant manager. While working on the wards she was careful to subordinate herself and her staff to the doctors on all matters of treatment, but when dealing with the committee she frequently questioned and on occasion overturned policy in the interest of the patients.

## **The Crimean War**

Florence Nightingale was looking for a fresh challenge, such as the matronship of a London hospital, when the Crimean War broke out in 1854.

The British hospital arrangements during the war were possibly no worse than they had been when last put to the test during the Napoleonic Wars, forty years earlier. However, society had higher expectations during the Crimean episode and, with front-line reporting in the newspapers, the populace were more aware of developments. A tide of public concern for the soldiers' well-being allowed the Secretary of State for War, Sidney Herbert, to take a radical step. The appointment of Florence Nightingale to superintend a group of nurses was unprecedented. No woman had previously held an official position in the Army and Florence Nightingale was an interesting choice for superintendent of nurses: experienced in nursing and highly intelligent, but hardly cut out to accept the orders of a bungling hierarchy.

She immediately grasped the situation at Scutari, the principal British military hospital. Not wishing to imperil the prospect of reform by alienating the doctors, her first action was to place her nurses under the doctors orders and to establish a hospital laundry. Within a month she had secured improvements in the upkeep of the wards, provided new bedding and clothing for the soldiers and improved the hospital diets.

In addition to supervising the nursing of the men, she wrote letters on their behalf, instituted a scheme for remitting money to their families and provided reading rooms and games for the convalescents. Florence Nightingale battled with the military authorities, the purveyor's department and was a thorn in the side of the Superintendent of Army Medical Services. A growing public interest in her endeavours gave her voice an impetus not available to reformers within the ranks of the army. Many of the recommendations made by the Superintendent of Nurses to the Secretary of State for War rapidly emerged as new army regulations.

While Florence Nightingale's administrative genius brought her the respect of Queen Victoria and of many of those in the government, it was the individual care and attention that she gave to the sick and wounded soldiers that engendered the affection of the British people. She reputedly walked the four miles of hospital corridors every night and one grateful soldier

recalled how he kissed her shadow as the ‘lady with the lamp’ passed by. Florence Nightingale became a symbol of hope during what was otherwise a disastrous military campaign.

In November 1855, at the height of Florence Nightingale’s Crimean fame, a group of her supporters held a public meeting in London to raise funds to enable her to carry on the reform of civil hospitals upon her return to England by establishing an institute for the training of nurses and hospital attendants. The Nightingale Fund took off with little involvement from its namesake, who was still inundated with the concerns of the war. She was not to turn her attention to it until 1860, and even then she was faced with other pressing concerns.

On her return to England, she was horrified that the government appeared satisfied with its limited enquiries into the disastrous mismanagement which had caused 16,000 deaths from disease against 4,000 deaths from battle. She immediately set about campaigning for a full commission of enquiry and the whole process was not exhausted till 1860.

According to the critical biographer Lytton Strachey, ‘Scutari had given her knowledge; and it had given her power too: her enormous reputation was at her back—an incalculable force’ (1918). In truth, the Nightingale ‘power’ was a rather more subtle force than Strachey implied, but it remained irresistible.

## **Military education**

Florence Nightingale used her influence to champion the education of British soldiers and of Army doctors. Despite the limitations of the instructions she received before going to the Crimea, at the height of the war she had pointed to the lack of practical experience of many of the junior surgeons, suggesting that during the conflict itself they should attend lectures on pathology and related subjects. A pathology laboratory was indeed briefly set up at Scutari as a result of her suggestion. Her concern for practical medical education later surfaced as one of the four central areas of the Royal Commission on the Health of the British Army.

Florence Nightingale was instrumental in obtaining the Royal Commission in 1857, and with Sidney Herbert as Chairman and a majority of supporters on the board, she began the work of marshalling her evidence of hospital mismanagement and collating statistics of mortality. (It was on the strength of her Crimean statistics that Florence was elected the first female Fellow of the Royal Statistical Society in 1860.)

Miss Nightingale laid down plans for military medical education in her privately printed *Notes on matters affecting the health, efficiency and hospital administration of the British Army* (1858). The purpose of the training was clearly grounded in the lessons of the recent war:

[...] whatever amount of scientific information appears to be presented by the civil student on his entrance into the Army, they convey little or no evidence of his practical knowledge. But as his entrance into the Army instantly introduces him into practice, and in a very short space of time submits patients to his charge, it seems necessary that a school of that kind which exercises the pupil in practical knowledge should intervene between his entrance into the army and his regimental service (Nightingale, 1858*a*, p. 43).

It is a mark of the force of her proposals that they were implemented by senior physicians and surgeons who were veterans of the Crimean campaign. The first Army Medical School in the United Kingdom was established in 1860 at Fort Pitt, Chatham.

Her concern for Army education extended from the teaching of doctors to the provision of educational facilities for the troops. A recent article (Calabria, 1994) on this little known aspect of Florence Nightingale’s work has shown that she was in advance of her time in thinking of the common soldier as educable at all. Like many of her contemporaries she was aware of the debilitating effects on the army of drink and of prostitution; she was, however,

exceptional in believing that the soldier's condition was to blame on the environment, rather than the soldier's nature. She wrote:

I have never been able to join in the popular cry about the recklessness, sensuality, helplessness of the soldier. On the contrary I should say[...] that I have never seen so teachable & helpful class as the Army generally. Give them opportunity promptly & securely to send money home—& they will use it. Give them a School & a Lecture & they will come to it.

Give them a book & a game & a Magic Lanthorn [sic] and & they will leave off drinking. (Goldie, 1987, p. 21).

The success of the Scutari reading room encouraged Florence Nightingale to campaign for similar rooms to be introduced in larger army barracks after the war, and she had a measure of success in this venture.

The Crimea gave Florence Nightingale the opportunity to put her ideas to the test, and after the war she felt obliged to publish her account (Nightingale, 1858*a*; 1858*b*; 1859). She knew that the opportunity for learning from the lessons of the war had to be consolidated immediately: 'we cannot try this experiment over again for the benefit of enquirers at home, like a chemical experiment. It must be brought forward as a historical example' (McDonald, 1993). If the post-Crimean reforms demanded urgent attention, the reform of nursing did not have the same immediacy. It was therefore not until 1860, four years after the Crimean War, that she turned to nurse training, the area with which her name is most closely associated.

## **The training of nurses**

Nurse training in the United Kingdom was not an entirely new idea by the mid-nineteenth century. In antithesis to Charles Dickens' stereotype of the drunken ignorant nurse, before the Crimean War there was a resurgence of nursing sisterhoods, producing many competent and moral nurses. A number of training houses had been founded in the United Kingdom in the 1830s and 1840s as a result of new religious freedoms. St John's House, an Anglican sisterhood established in 1848, trained women for three months to nurse poor, sick people in their own homes. Six St John's nurses accompanied Florence Nightingale to the Crimea, but although she established close friendships with Mary Jones, Superintendent of St John's House and the Reverend Mother Clare Moore, Mother Superior of the Convent of Mercy in Bermondsey, who also supplied Crimean nurses, she insisted on establishing secular nurse training. While devising a scheme for nurse training, she was sensitive to potential opposition. During the Crimean War, claims in the press that certain of the nurses had attempted the religious conversion of soldiers on their deathbeds had nearly upset her mission. The threat of religious controversy was probably an important factor in influencing Florence Nightingale towards secular nurse training.

There were already vociferous opponents of reformed nursing within the hospitals. In 1856, John Flint South, surgeon at St Thomas' Hospital, London, let it be known that he considered nurses needed no more qualifications than housemaids. Nevertheless, in 1859 Florence Nightingale and the Nightingale Fund began negotiations to establish a training school at St Thomas' Hospital. Opposition from certain quarters of the medical profession was inevitable.

It has already been stated that Florence Nightingale preferred to influence policy rather than direct it, yet with regard to the Nightingale School there were other reasons why she may have preferred to keep a lower profile in the school's affairs. The illness which had continued to afflict her since the Crimean War limited her activity; it was therefore logical to delegate the heavy workload of superintending the school to an active hospital matron. Even had she been well, it is doubtful that she would have taught. Her private correspondence indicates that she

did not consider herself a successful teacher of women. In December 1861, she wrote, with some exaggeration, to Mary Mohl:

My doctrines have taken no hold among women. Not one of my Crimean following learnt anything from me—or gave herself [...] to carry out the lesson of that war (Vicinus & Nergaard, 1989, p. 230).

Also, she was quite clear that the best practitioners made the best teachers:

the writer, who has herself seen more of what may be called hospital nursing, i.e., practical manual nursing, than, perhaps, anyone in Europe, honestly believes that it is impossible to learn it from any book, and that it can only be thoroughly learnt in the wards of a hospital; and she also honestly believes that the perfection of surgical nursing may be seen practiced by the old-fashioned ‘Sister’ of a London Hospital as it can be seen nowhere else in Europe (Nightingale, 1860a).

Although Florence Nightingale considered textbooks inappropriate for teaching the ‘handicraft’ of nursing, she did concede that books could teach the environmental management or sanitary aspects of nursing. The fact that she insisted on each probationer having her own private room in the Nightingale Home for study and reflection shows that she was not just concerned with the practical side of nursing.

The characteristics which distinguished the Nightingale School in its early years were:

- The training school was independent but linked to a hospital;
- The hospital matron had sole authority over the probationer nurses;
- The training school provided a secure ‘home’ for the probationers;
- The teaching of probationers was by hospital staff: sisters and doctors;
- The probationers were assessed by the sisters and matron;
- The probationers were paid a basic wage during their training;
- The probationers’ contract bound them, after their training, to accept a position in a hospital of the Fund’s choice and it was the Fund’s policy to send out groups of trained nurses to spread the Nightingale system of training to other hospitals.

There were many difficulties associated with the new endeavour. There was a reliance on the sisters who were themselves untrained; the doctors could not have been expected to understand the special requirements of nursing as opposed to medical education; the matron, Mrs Sarah Wardroper, being responsible for nursing in the hospital, used the probationers as extra pairs of hands; and it proved difficult to recruit probationers of a suitable calibre.

According to the historian of the Nightingale Fund, Monica Baly,

There was no sudden beam from Miss Nightingale’s lamp; reform came slowly and painfully and what became known as the Nightingale system was not an ideal scheme of Miss Nightingale’s devising but a pragmatic experiment and the result of enforced compromise (Baly, 1986, p. 230).

Undoubtedly, Dr Baly’s overall assessment is correct: the school’s development was not as regular as earlier historians have suggested. Its first decade was particularly difficult. However, the system that began to emerge in the school’s second decade was greatly improved, mainly as a result of a series of initiatives by Florence Nightingale herself in the early 1870s. There is little reason to believe that she conceived of nurse training as anything other than an experiment. She knew from bitter experience with the Royal Commission on the health of the army that reforms were not produced by swift victories. From 1872 until her powers began to fade, she kept in close contact with the school’s development, getting to know many of the probationers and sending an annual printed address full of practical and moral advice.

Another point which is worth bearing in mind when assessing the success of the Nightingale School is that its reputation spread far and wide, despite its awkward beginnings. This may be attributed in part to the lasting impact of the Nightingale legend, but it was also the product of hard work. Florence Nightingale’s cousin, Henry Bonham-Carter, was secretary

to the Nightingale Fund from 1861 to 1914 and his dedication helped to ensure that the Nightingale School received recognition for its achievements. By the time of Mrs Wardroper's retirement in 1887, Bonham-Carter was able to proclaim that the school had provided forty-two hospitals with matrons and 520 nurses had completed their training. The school's successes made it easier to recruit probationers of a higher calibre, and in turn better-trained Nightingale nurses began to establish their own nursing schools.

Early migrations of Nightingale nurses to Australia, Canada, India, Finland, Germany, Sweden and the United States of America led to a network of training schools on the Nightingale system. As nursing became a respectable profession for women across the world, Florence Nightingale's lamp became the profession's emblem, symbolizing, on the one hand, the hope given to the Crimean wounded and, on the other, literacy and learning. When the Florence Nightingale International Foundation was established in 1934 to provide a suitable educational memorial to Florence Nightingale, the 'lamp' was naturally its symbol.

## **Florence Nightingale's theories**

If a beam can be described as coming from Florence Nightingale's lamp, it was in 1882 when she produced two articles for *Quain's dictionary of medicine* entitled 'Nurses, training of' and 'Nursing the sick.' In the first article she expounded for the first time the requirements of an ideal nurse-training school, distilled from the experience of the Nightingale School. One of the essential requirements in a training school was the 'home sister'. Her role was to consolidate the learning from the wards and to oversee the probationers' moral development. The home sister was in effect the first specialist nurse-teacher. It seems surprising that Florence Nightingale had conceived of nurse training in 1860 without the home sister, considering that this could be conducted by the matron, sisters and doctors alone.

Miss Nightingale also set out her theory of learning, with its emphasis on acquiring practical skills:

Observation tells *how* the patient is; reflection tells *what* is to be done; training tells *how* it is to be done. Training and experience are, of course, necessary to teach us, too, *how* to observe, *what* to observe; *how* to think, *what* to think (Nightingale, 1882).

Florence Nightingale considered that, once a nurse had 'learned to learn', the process should be continued beyond formal training. On this subject, her views are extraordinarily up to date: 'every five or ten years [...] really requires a second training nowadays' (Seymer, 1954, p. 333). It was hardly surprising that in her old age Florence Nightingale argued against the registration of nurses. It seemed to her that the attainment of this registered status for nurses would signify a cut-off point in their training. She warned that registered status would lead to conceit and that it was merely mirroring the professional path taken by doctors. She emphasized the separate requirements of a nurse and her particular responsibility for the well-being of the patient which, in her view, was best secured if the nurse regarded her work as a higher calling or a vocation rather than as a profession. Her arguments eventually, and perhaps inevitably, went unheeded.

## **Promoter of education**

Education entered into almost every area of Florence Nightingale's life. A common thread was her concern that educational methods should be practical and reflect the purposes to which education might be put.

She took a keen interest in the village elementary school near the family home in the county of Derbyshire. She procured books for the school library, but was also keen on learning

through other means. Given the rich geology of Derbyshire, she recommended the use of rock and mineral specimens as a prompt for learning in the classroom. This was a far cry from the deathly dull teaching methods of Mr Gradgrind, Charles Dickens' caricature of a Victorian school-teacher.

Her interest in schools extended to the British colonies. Of particular concern to her was the effect of schooling on the health of children. In 1863, with the sponsorship of the Duke of Newcastle, she conducted a statistical survey of 143 colonial schools in Australia, Canada, South Africa and Ceylon (as Sri Lanka was then). She was concerned that European educational methods were not suited to the teaching of native populations. In correspondence with Sir George Grey, governor of New Zealand, she explained:

keeping a certain number of children a great deal of each day in a classroom, cramming and exciting them with formulae, [would be] fatal to a race exposed to it for the first time. In their children it will produce bad health, scrofula, and consumption and is, in reality, death by slow torture (Keith, 1995).

According to Jocelyn Keith, her advice seems to have gone unheeded.

In the late 1860s, Florence Nightingale's attention was drawn to the subject of education in workhouses for the poor. Her trenchant criticism of the punitive regime suffered by the paupers in residence there received widespread acclaim. The thrust of her argument was that paupers should not be punished, but taught to help themselves. Consequently, it was important to establish practical education that would teach manual skills. She was keen to take children away from the workhouse environment and to teach them in the recently established industrial schools.

Through her long-standing friendship with Dr Benjamin Jowett, Master of Balliol College, University of Oxford, she was drawn into questions of higher education. In the 1870s, she had supported the idea of instituting a medal for achievement in statistics, in memory of Adolphe Quetelet, the founder of modern statistics. In the early 1890s, Jowett revived her interest in promoting statistics and he introduced her to the mathematician Professor Francis Galton. Together, Nightingale and Galton formulated plans for a new Chair of Statistics at Oxford. In a letter to Galton of 7 February 1891 Florence Nightingale suggested that the professorship should address the need for statistics relating to education, penology, workhouses and India. The proposals came to nothing and historians have debated the reasons for the failure. It should be noted that Florence Nightingale's concern for the practical application of statistics to social problems was not shared by the majority of academics at the time. Karl Pearson, the father of modern applied statistics, recognized the virtues of Miss Nightingale's ideas on the subject, so her contribution was not entirely wasted.

## Conclusion

Florence Nightingale once quoted from an address on education delivered at the Universities of St Andrew's and Glasgow, which perfectly reflected her own standpoint: '[...] education is to teach men not to know, but to do' (Nightingale, 1873, p. 576). It would seem fair to judge Florence Nightingale's contribution to education by the practical effect which her reforms had. A letter written to her by Benjamin Jowett should stand as her epitaph:

There was a great deal of romantic feeling about you 23 years ago when you returned home from the Crimea [...] and now you work on in silence, and nobody knows how many lives are saved by your nurses in hospitals; how many thousand soldiers [...] are now alive owing to your forethought and diligence; how many natives of India in this generation and in generations to come have been preserved from famine and oppression and the load of debt by the energy of a sick lady who can scarcely rise from her bed. The world does not know all this or think about it. But I know it and often think about it (31 December 1879).

## Notes

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2. It was the first of four such experiences which Florence Nightingale recorded in her private diaries.

## References

- Baly, M.E. 1986. *Florence Nightingale and the nursing legacy*. Beckenham, U.K., Croom Helm.
- Calabria, M. 1994. Florence Nightingale and the libraries of the British Army. *Libraries and culture* (Austin, TX), vol. 29, no. 4, p. 367-88.
- Goldie, S.; ed. 1987. *'I have done my duty': Florence Nightingale in the Crimean War, 1854-56*. Manchester, U.K., Manchester University Press.
- Keith, J. 1995. What if they had listened to Florence?: an essay in contrafactus. In: Bryder, L.; Dow, W., eds. *New countries and old medicine*, p. 340-46. Auckland, New Zealand, Pyramid Press.
- McDonald, L. 1993. *Women founders of the social sciences*. Ottawa, Carleton University Press.
- Nightingale, F. 1851. *The Institution of Kaiserswerth on the Rhine, for the practical training of deaconesses, under the direction of the Rev. Pastor Fliedner, embracing the support and care of a hospital, infant and industrial schools, and a female penitentiary*. London, Colonial Ragged Training School. 32 p.
- . 1858. *Subsidiary notes as to the introduction of female nursing into military hospitals in peace and in war. Presented by request to the Secretary of State for War*. London, Harrison & Sons. 133 p.
- . 1858. *Notes on matters affecting the health efficiency and hospital administration of the British Army founded chiefly on the experience of the late war. Presented by request to the Secretary of State for War*. London, Harrison & Sons. 567 p.
- . 1860. *Notes on nursing: what it is and what it is not*. London, Harrison. 70 p.
- . 1873. A 'note' of interrogation. *Frasers magazine*. May, p. 567-77.
- O'Malley, I.B. 1930. *Florence Nightingale, 1820-56*. London, Thornton Butterworth. 416 p.
- Seymer, L., ed. 1954. *Selected writings of Florence Nightingale*. New York, MacMillan. 397 p.
- Strachey, L. 1918. Florence Nightingale. In: *Eminent Victorians*. London, Chatto & Windus. (Now available from Penguin Books.)
- Vicinus, M.; Nergaard, B., eds. 1989. *Ever yours, Florence Nightingale*. London, Virago Press. 461 p.

## Works by Florence Nightingale

1851. *The Institution of Kaiserswerth on the Rhine, for the practical training of deaconesses, under the direction of the Rev. Pastor Fliedner, embracing the support and care of a hospital, infant and industrial schools, and a female penitentiary*. London, Colonial Ragged Training School. 32 p.
- 1858a. *Notes on matters affecting the health, efficiency and hospital administration of the British army founded chiefly on the experience of the late war. Presented by request to the Secretary of State for War*. London, Harrison & Sons. 567 p.
- 1858b. *Subsidiary notes as to the introduction of female nursing into military hospitals in peace and in war. Presented by request to the Secretary of State for War*. London, Harrison & Sons. 133 p.
1859. *Notes on hospitals: being two papers read before the National Association for the Promotion of Social Science, at Liverpool, in October 1858. With evidence given to the Royal Commissioners on the State of the Army in 1857*. London, John W. Parker & Sons. 108 p.
- 1860a. *Notes on nursing: what it is and what it is not*. London, Harrison. 70 p.
- 1860b. *Suggestions for thought for searchers after religious truth*. 3 vols. London, Eyre & Spottiswoode. (Privately printed.)
- 1863a. *How people may live and not die in India*. London, Emily Faithfull. 11 p.
- 1863b. *Notes on hospitals*. Third edition. London, Longmans. 187 p.
- 1863c. *Sanitary statistics of native and colonial schools and hospitals*. London. 67 p.
1865. *The organisation of nursing in a large town (an account of the Liverpool nurses' training school). With an introduction by Florence Nightingale*. Liverpool. 103 p.
1867. 'Suggestions on the subject of providing, training, and organizing nurses for the sick poor in workhouse infirmaries. In: *Report of the committee on cubic space of metropolitan workhouses with papers submitted to the committee*. Parliamentary Blue Book. p. 64-79.

1871. *Introductory notes on lying-in institutions, together with a proposal for organising an institution for training midwives and midwifery nurses.* By Florence Nightingale. London, Longmans, Green & Co. 110 p.
- 1873a. A 'Note' of interrogation. *Fraser's magazine*. May, p. 567-77.
- 1873b. A sub-'Note' of interrogation. What will our religion be in 1999? *Fraser's magazine*, p. 25-36.
- 1874a. *Life or death in India. A paper read at the meeting of the National Association for the Promotion of Social Science, Norwich, October, 1873. With an appendix 'life or death by irrigation'.* London, Harrison & Sons. 63 p.
- 1874b. *Suggestions for improving the nursing services of hospitals and on the method of training nurses for the sick poor.* 18 p.
1876. *Metropolitan and National Association for providing trained nursing for the sick poor: on trained nursing for the sick poor.* London, Spottiswoode & Co. 12 p.
1879. A missionary health officer in India. In: *Good words*. (three articles) July, August and September 1879, p. 492-96, p. 565-71, p. 635-40.
1882. 'Nurses, training of' and 'Nursing the sick'. In: *Quain's dictionary of medicine*, p. 1038-43; p. 1043-49.
1892. Three letters In: *Report of the training of rural health missioners and of their village lecturing and visiting under the Bucks County Council: 1891-92.* Winslow, U.K., E.J. French. 50 p.
1893. 'Sick-nursing and health-nursing.' In: *Woman's mission: a series of congress papers on the philanthropic work of women by eminent writers.* London, Sampson Low, Marston & Co., p. 184-99.
1894. *Health teaching in towns and villages. Rural hygiene.* London, Spottiswoode & Co. 27 p.

Bishop and Goldie's *Bio-bibliography* remains the best guide to Florence Nightingale's 200 books, reports, articles and pamphlets. Only the two important new editions that have appeared in English since the publication of *the Bio-Bibliography* are also listed below.

- Bishop, W.J.; Goldie, S. 1962. *A Bio-bibliography of Florence Nightingale.* London, Dawson's of Pall Mall.
- Nightingale, F. 1991. *Cassandra and other selections from suggestions for thought.* (Edited by M.A Poovey.) London, Pickering & Chatto.
- Skretkowitz, V., ed. 1992. *Florence Nightingale's notes on nursing* (revised with additions). London, Scutari Press.

### **Works about Florence Nightingale**

- Cook, E.T. 1913. *The life of Florence Nightingale*, 2 vols. London, Macmillan.
- O'Malley, I.B. 1930. *Florence Nightingale, 1820-1856.* London, Thornton Butterworth. 416 p.
- Woodham-Smith, C. 1992. *Florence Nightingale.* London, Constable.