

Florence

London, 1st August 1860

Cher Monsieur Quetelet,

It was a delight to meet you at the International Statistical Congress last week. Finally, our paths have crossed. It might seem like a coincidence that we found each other, and that we have so many interests in common, but I have been an admirer of your work for many years. I acquired a copy of *La Physique Sociale* as soon as it was published and I am delighted to hear that you are intending to revise and rewrite it. It is so hard to get hold of the first edition these days and if we are to revitalize the field of statistics, your book *must* be freely available in our greatest universities. It is essential that the next generation of social and political leaders has ready access to your ideas.

I am planning a short work of my own, probably something about childbirth and maternity, that incorporates your techniques. As we both understand the thinking in our field is so backward, so sluggish and so thwarted by tradition that our only hope is to present factual evidence. I know many influential people who could use their good offices to do so much on our behalf if only they could be persuaded. Dr Farr - I think you know him too? – disagrees with me, but if we are to have effect we must develop more compelling methods of representing our results. We have data that could and that should transform diagnosis and treatment and that would, in the proper hands, revolutionise the administration of care and alleviate *so much* needless suffering.

As I mentioned when we met in London, I have been especially inspired by the way you combine data sets to identify underlying patterns. I am convinced that the trends you reveal do not arise by chance, they are not coincidences in the usual sense. They are co- incidences, that is correlated, co-existing incidents, as I discovered during my stint in the East.

I will never forget that thundery afternoon in my office at the back of the hospital in Scutari. I had my writing desk there and my boxes of data. I had been at work since dawn, copying, calculating and summarizing the figures that I had prised out of my reluctant colleagues at the front. I know they have so much to do, but unless they devote quality time to filling in the forms that I send their efforts will most likely be in vain. But I digress. I began to assemble the evidence on mortality, just as you have done. One question was upper most in my mind. Did it make sense to send wounded soldiers back to Scutari, a perilous journey in its own right, or to send nurses to treat them in field hospitals closer to the front? If I could answer this question to my satisfaction, I would know how to organize my resources to best effect. To my knowledge no one had done this kind of basic accounting before.

As the day wore on, and the air got heavier, I felt a sudden lightness. I could at last 'see' connections, conjunctions, coincidences if you will – that no one, but no one had seen before. The realities of life and death leapt from the page.

For this I will always be in your debt. I learned so much from your practical application of statistics, from the careful compilation of facts and figures, and from your concept of the 'average' man. But in my view, it is the combination of statistical data that is of greatest power in society. It is this that holds the key to much needed reforms in Legislation, Government, Criminal Law, Education, Institutions, Sanitary practice, &c, &c, &c.

Dr Farr is of a different opinion – he can be such a purist at times – but to make progress we must popularize your approach as a matter of utmost urgency. I have many ideas about what we could do, especially with colour. I have been experimenting with pink, grey and green inks, and I have been elaborating basic pie charts (I think you call these 'Camemberts' in French) to depict another dimension. If we extend the length of a 'wedge' then, depending on the variables we choose, we can show trends over time as well as the relative proportion of, let us say, death from wounds in battle, or from secondary infections. We can do likewise for different locations, and we can compare outcomes month by month over the year. In this way we can at last get a grip on the processes involved: we can isolate causes

and we can address them head on, secure in the knowledge that our attention is finally focused on the right problem.

I enclose a copy of one of my 'coxcomb' diagrams in the hope that you will find it of some interest.

Yours sincerely,

F. Nightingale

Dear Madame Nightingale

Thank you for your note. I will reply at greater length in due course, but I am not so well these days, and I am busy with other work.

Yours sincerely,

A. Quetelet.

Marseilles, 27th October 1854

My dearest sister,

Tomorrow we set sail for Constantinople. I don't know how long the mail will take to reach you from Scutari so I thought I'd write now to tell you about the journey so far.

I have been exploring the city with Auntie Mai and Uncle Sam. They set off on their way back to London this afternoon so it was my last chance to spend some time with them. I bought a pair of field glasses which the shop assistant kindly inscribed with the date and 'the Vectis', which is the name of the boat I'll be boarding tomorrow. We had an excellent lunch, and once I had waved them off on the train back to Valence I caught up with the rest of the party.

By now you may have heard that Charles and Selina Bracebridge decided to come along at the last minute. They are such good friends and it is such a comfort to have them with me. Even so not everything has gone according to plan. Whilst they were out shopping for supplies in Marseilles, Thomas, our courier-interpreter, found a job lot of cast iron bedsteads. Guess what! We now have six heavy bed frames to add to our already considerable luggage. That boy is impossible.

He made a complete mess of organizing our trip from Lyon to Valence. As you know, I travelled to Paris in advance in order to meet Mary. She sends you her very best wishes by the way. Selina, Charles, Thomas and the 37 newly recruited nurses came later, via Boulogne. Thomas had booked the Hotel des Bains and by all accounts everyone was treated very well. The next day they came on to Paris and we met together for the first time.

I can tell you, privately, that my heart sank. Almost none of the young women had been abroad before and they were chattering nineteen to the dozen. The nuns, of whom I would have expected better, were so naïve, waving to every *garçon* who took their fancy and giggling.

Next morning we were up early. We had to get everyone and everything from the hotel to the station for 10 am. You can't imagine how much stuff we have with us. I have the bare essentials, my beaded moccasins, my writing desk, my medicine

box, some books and letters, and two trunks - but it all adds up. We got to Lyon on time. The French Railways really do live up to their reputation, but then disaster struck.

Thomas, who claims to speak French and Turkish, went ahead to get the tickets for the boat. We took all the trunks and boxes down to the Rhone only to find that there was no space on the bateaux to Valence. There was nothing for it. We would have to spend the night in Lyon and travel on the next day. Thankfully, we had planned two days in Marseilles, so we were not in a complete pickle.

What a night that was. After a couple of hours, Thomas reported that he'd found somewhere for us to stay, but it was more than a mile up a steep hill. He recruited some local porters and we made our way to a rather basic hotel with a verandah and a good view over the city. I was frustrated and cross but the nurses were not put out at all: for them this was yet another new experience. We had a plain but nourishing supper of saucisson Lyonnaise.

So much rests on our shoulders. If nursing is to be recognized as a respectable profession these women must be up to scratch: all eyes will be on them and there is already such public interest. But who are they? Why have they volunteered and what material do I have to work with? That extra night in Lyon provided me with some chilling insight into the task ahead.

No sooner was my back turned than three of them vanished into the night. I calmed myself and decided to join the others in conversation on the terrace. "Miss", said one, "Miss, will there be rice pudding in Scutari?". Before I had the chance to reply another one chimed in: "Don't be silly, yes of course there will be rice pudding, and roast beef. It will be just like home, but more exciting". One of the nuns looked up: "I don't think it will be that exciting. I've brought my embroidery to do during the afternoons. Mr Manning promised that there would be a staff of Turks to take care of the laundry and from what I hear the army doesn't want us to be there at all, so I don't expect we'll have much to do. Just chat to the boys until they get better. Does anyone have any cards? We can simply keep the score, no gambling this time."

I was aghast. How could I turn this feckless crew into a disciplined team? I couldn't take any more of their chat so I retired to my tiny room with its cold clay tiled floor. Just as I was about to fall asleep I heard the sound of singing. I got up and looked

out of the window. It was the three who had gone missing, drunk as lords. I noted this fact in my small black note book and sighed.

I was still angry with Thomas. If he had been better organised we'd would have not had to stay in Lyon. But I have to say that evening showed me what I was up against. I was mentally prepared to cope with suffering and injury, to handle primitive and insanitary conditions, and to run out of essential supplies but it was beginning to dawn on me – perhaps my biggest challenge would be managing this troupe of volunteers. Some wayward, some backward, some just out for fun, but none, as far as I could tell, devoted to the cause.

There is no way back: Constantinople and Scutari lie ahead.

We have had many adventures together, you and I, but these are problems I must overcome alone. It is good to have the Bracebridges with me, but in confidence, I have my concerns about them too. Charles and Selina are seasoned tourists but this is not just another jaunt. I don't think they fully realise there will be no time for sightseeing where we are going. I know you had your doubts about this trip, and I am so glad that you and mamma have given me your wholehearted support. It means such a lot to me.

I promise to write again as soon as I can.

My fondest love,

F. N.

London, 17th December 1879

My dear Helen,

I do hope you will accept this small gift from me on the occasion of your promotion. I was absolutely thrilled to hear of your new position after all the trials and troubles of Montreal. This is a chance to make a clean start and make use of all that we have learned over the years.

The instruments are from John Weiss & Son, - nothing but the best! I took a very similar set with me when I went to Scutari, it must be more than 20 years ago now. On that trip I also took my precious medicine box - Powdered Rhubarb, Quinine, Carbonate of Soda and Essence of Ginger. All were essential then, and all are still important today, but of course I had nowhere near enough supply.

Instruments and medicines are the tools of our trade, but only for those who know what to do with them. You will have your work cut out transforming your new recruits into devoted, knowledgeable, disciplined and loyal staff. Helen, you were such a good student and I know you have your own ideas but I have always believed in leading by example. As you know I am a stickler for rules: no alcohol, a strict rota of work and rest, regular meals and no distractions for the staff. Over the years I have learned that small groups bond together better and that once you have established a team, the best amongst them set standards that others follow. I have also learned how much damage one rotten apple can cause. It is tempting to think the best of people and to give them a second chance, but in my experience, this is a costly mistake. Always be on your guard and do not hesitate to act decisively. If you do not dismiss those who step out of line they will undermine all that you seek to achieve. I don't want to exaggerate, but in the end, careful management is perhaps the most important tool we have. We can't do everything ourselves and unless our methods are reproduced and shared, and reproduced again, no progress will be made.

The future of nursing depends on rigorous training and the careful accumulation of scientific knowledge. I have already sent you quite some packages of books. These are also instruments of medical advance, transporting ideas from the author to reader, from you the reader to your staff, and from them to the next generation. Studying, writing and reflection are part of nursing, no question about it. I think you already have Quetelet's *La Physique Sociale* – it is such a shame he never did produce a second edition, but that is the kind of inspirational text we need.

Of course, you must not believe everything you read. If I was you, I'd beware of those who talk of germs as vectors of disease. These are fanciful ideas, based on just a few experiments conducted in France. They are nothing compared to the weight of evidence that we have on the importance of fresh air and ventilation, without which treatment will fail. As the hygienists and sanitary scientists confirm, cleanliness is also critical. Laundry – not the first thing that nurses want to do – is one of the most vital tasks. When you take up your post as Assistant Matron, do make sure that you introduce a system for regularly cleaning sheets, for changing dressings and for sweeping the floor.

These are basic measures, but if we are to be nurses in the true spirit of the word, we need to grasp the bigger picture. How is suffering distributed? Under what circumstances do the wounded recover? How can we identify, explain and mitigate the true causes of illness and death? I know it is not what your staff will want to hear, but as I have said before, data, data and more data is our real weapon. Helen, you must keep good records and you must spend time analyzing them. We need concrete evidence of the effects of what we do and we need to use this to counter the opposition. You will undoubtedly meet with traditionalists who have no understanding of what nursing involves. My advice is to stick to your guns. Be patient but firm and hold fast to your position: at the end of the day, the facts will speak for themselves. As Assistant Matron you will be an ambassador for our profession, you will be in the public eye and you will be able to influence funding not only for your own hospital, but for the improvement of public health across the board. You need to make sound decisions and for that you need good, clear,

statistical evidence. Nothing less will do. Earlier I said that disciplined staff were the key but systematic record keeping is equally important.

Sorry to be rambling on like this, but as I wrapped up the instruments it made me think - what are they without knowledge, where does knowledge come from, how does it circulate and how does it grow? I have jotted down my thoughts on these topics and having done so, it has become clear to me that no one aspect, not the medicine chest, not the data, not the scissors, not the clean sheets, has effect alone. It is the totality that counts, and it is on this that you must focus.

My very best wishes,

F.N.