

Royal Institution Primary Maths Masterclasses

The Power of Pictures and the Compassionate Statistician







Florence quote:

Her enjoyment (of numbers) was so immense, she found the sight of a long column of figures "perfectly reviving".

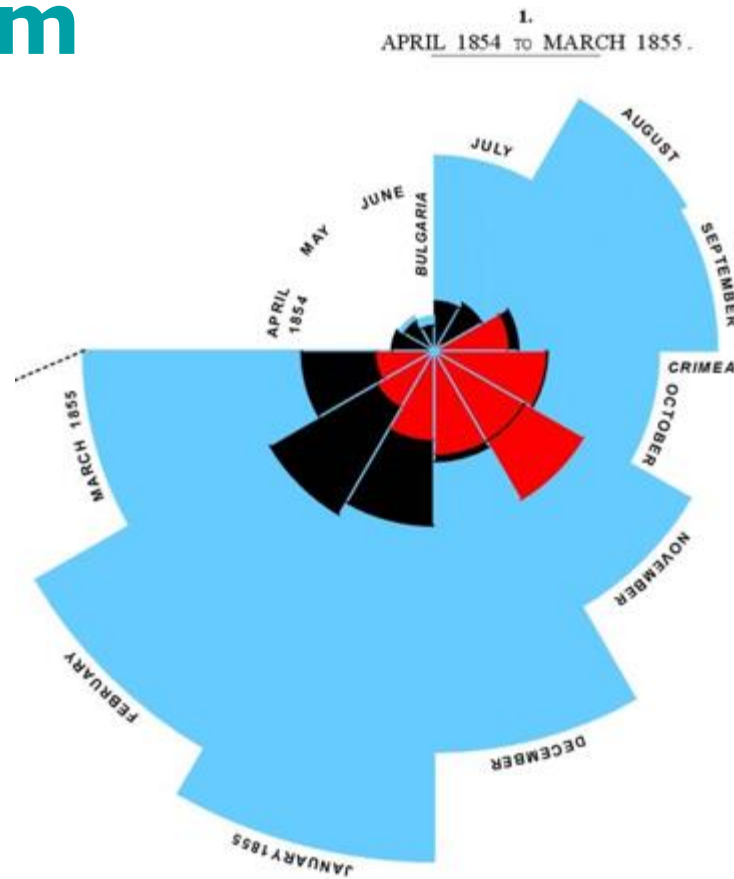


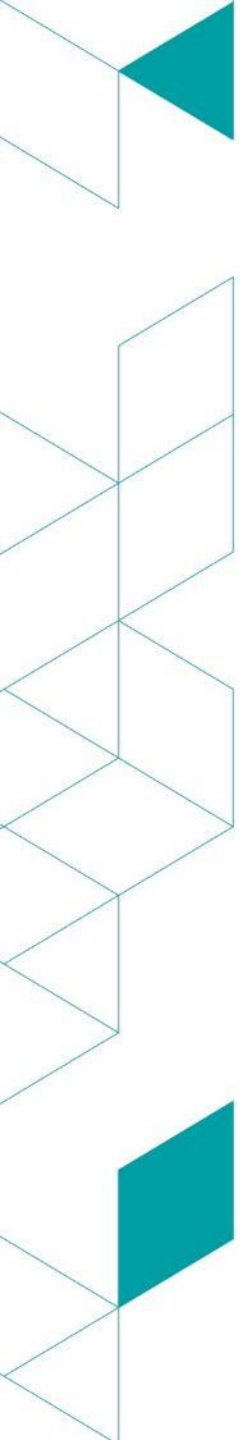
Florence found that the hospitals weren't keeping good records

She started to insist that proper records were kept, just like she had done for her vegetable garden.

This helped her to discover people were dying in large numbers...

Florence used pictures to illustrate the problem. She invented this “Rose” diagram to help her show people the problem



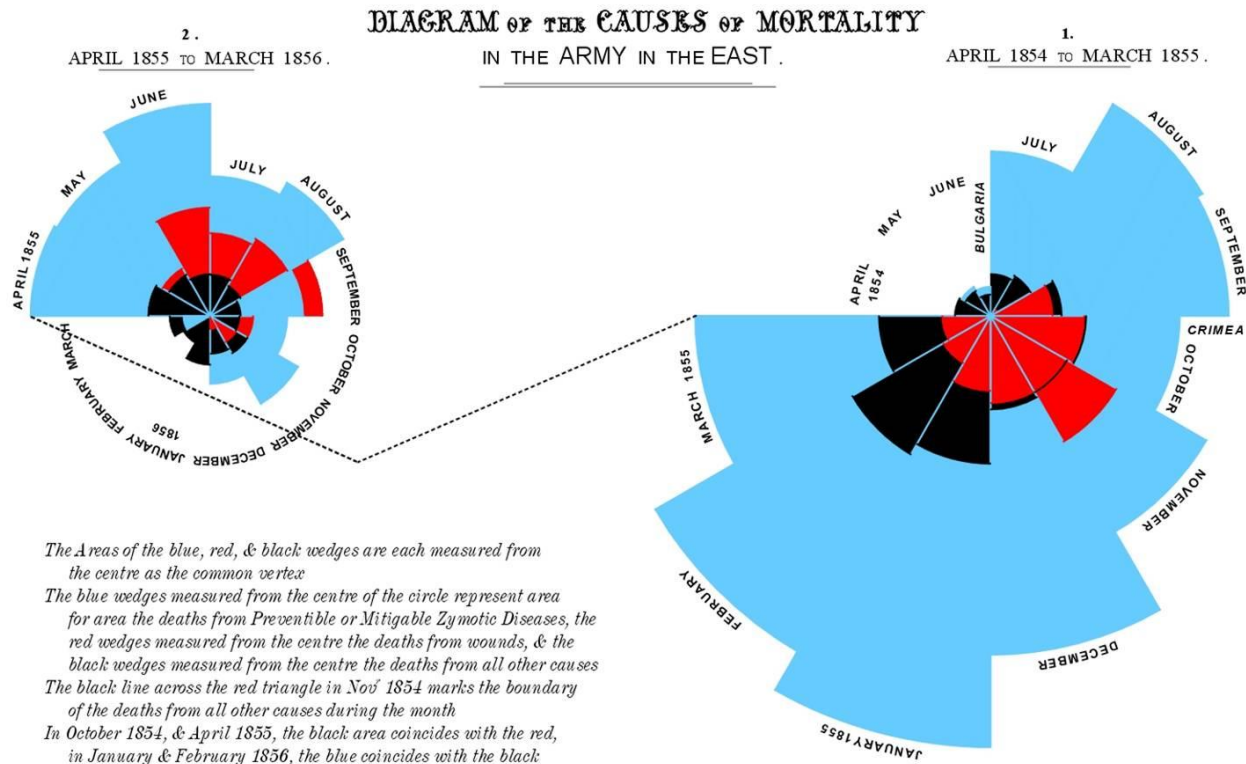


Florence found that diseases were spreading, just as in our game because of a lack of simple precautions and good nursing techniques

She set about introducing these good nursing techniques

She drew another diagram to show her results

Florence drew another Rose diagram to show deaths in the following year of the war



The Areas of the blue, red, & black wedges are each measured from the centre as the common vertex

The blue wedges measured from the centre of the circle represent area for the deaths from Preventible or Mitigable Zymotic Diseases, the red wedges measured from the centre the deaths from wounds, & the black wedges measured from the centre the deaths from all other causes

The black line across the red triangle in Nov^r 1854 marks the boundary of the deaths from all other causes during the month

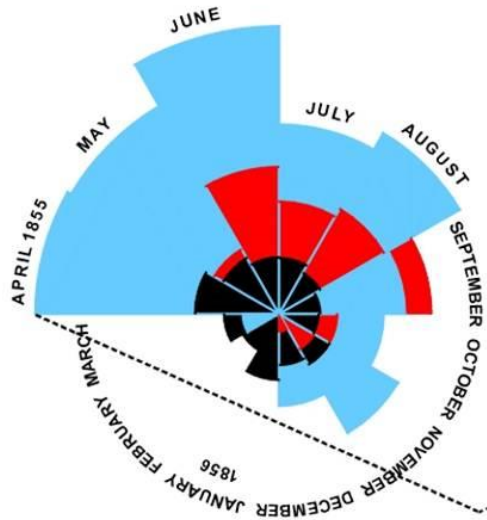
In October 1854, & April 1855, the black area coincides with the red, in January & February 1856, the blue coincides with the black

The entire areas may be compared by following the blue, the red & the black lines enclosing them

DIAGRAM OF THE CAUSES OF MORTALITY IN THE ARMY IN THE EAST.

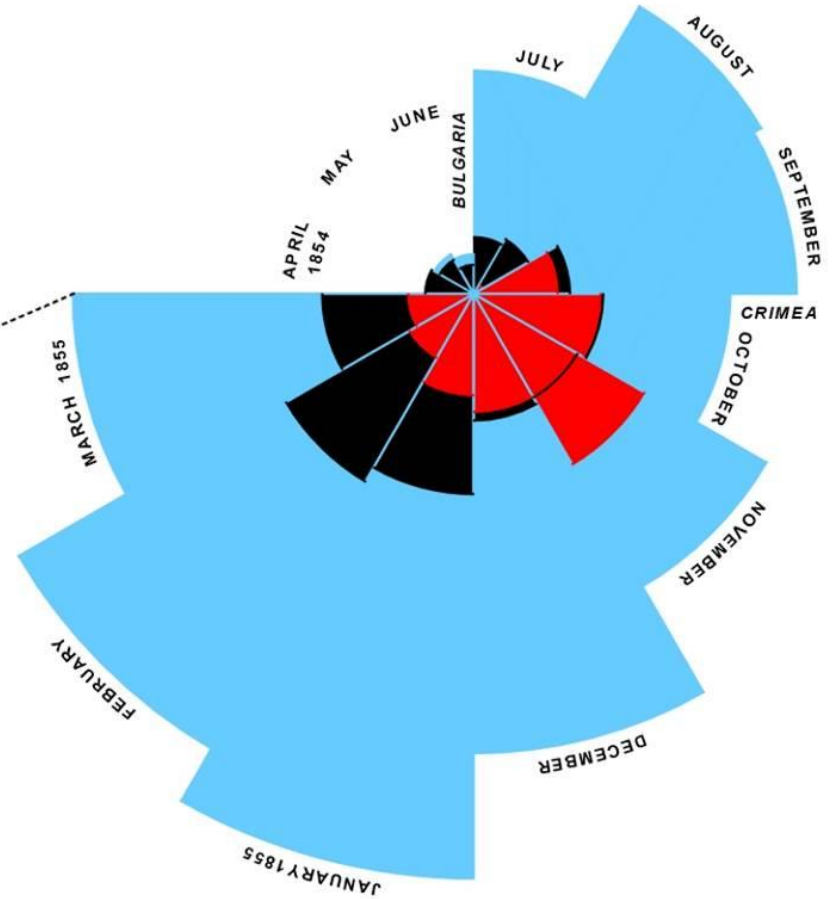
2.

APRIL 1855 TO MARCH 1856.



1.

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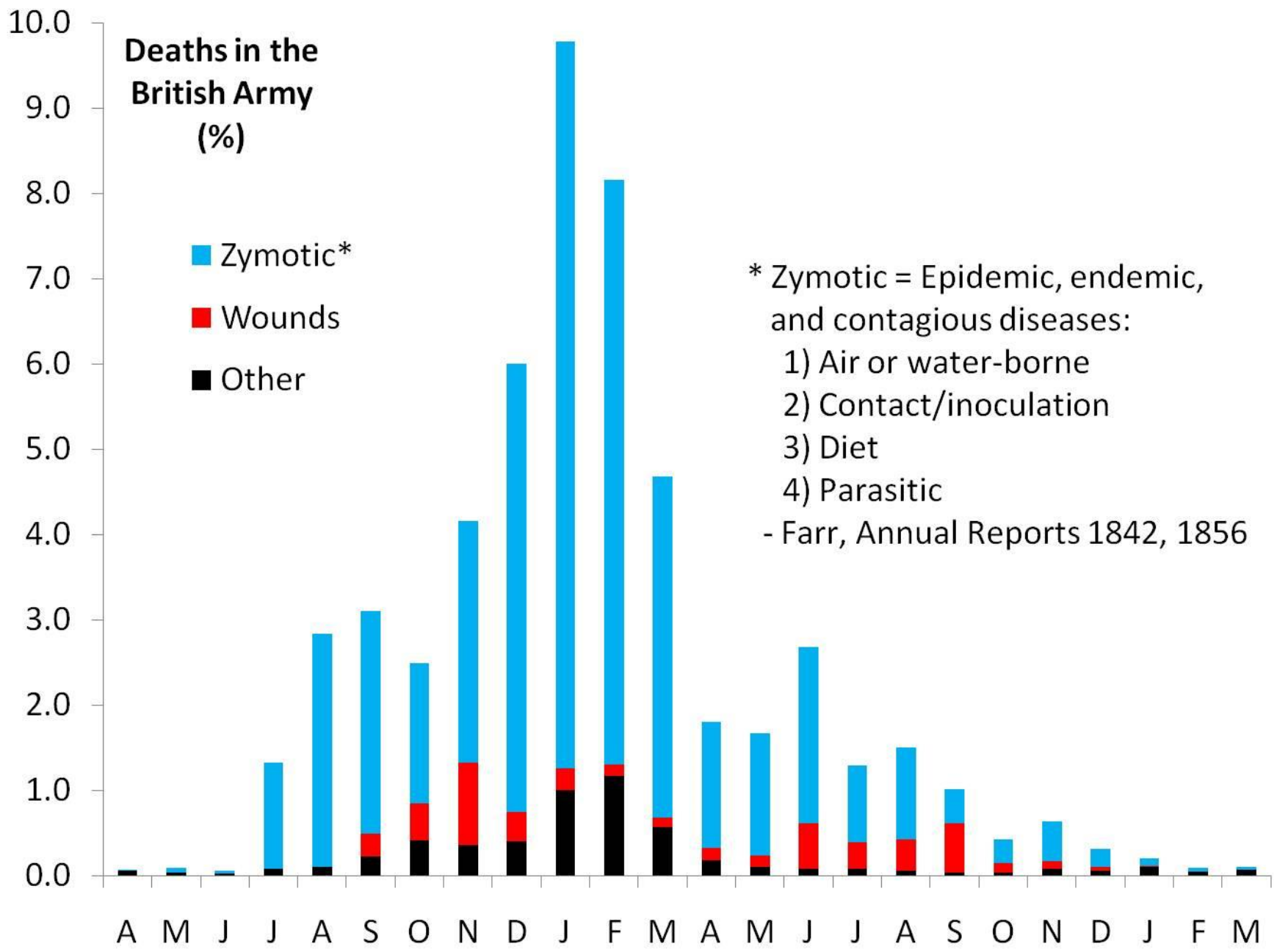
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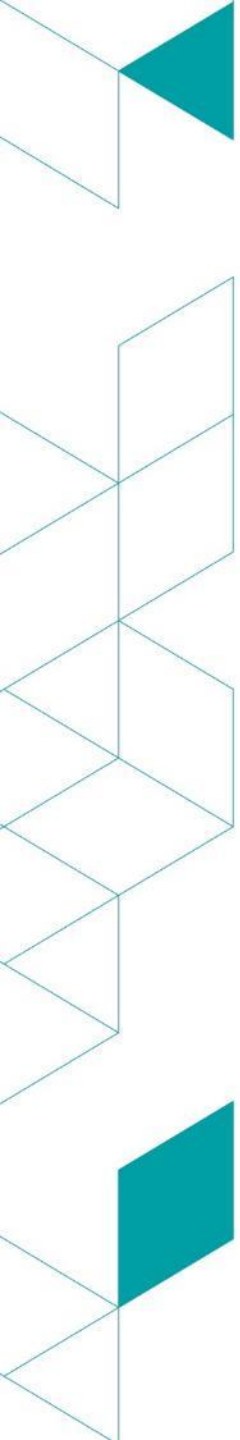
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Deaths in the British Army (%)

■ Zymotic*
■ Wounds
■ Other

* Zymotic = Epidemic, endemic, and contagious diseases:
 1) Air or water-borne
 2) Contact/inoculation
 3) Diet
 4) Parasitic
 - Farr, Annual Reports 1842, 1856





Florence's work with numbers, and then her use of diagrams, saved thousands of lives in the war

Her work didn't end there however

When she came home she used her diagrams to convince the government to apply her methods here

Florence's work ultimately contributed hugely to the increase in life expectancy in Victorian times

