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(Krause 2013). , .

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1859 (Florence Nightingale) .
(Nightingale, 1859). , “ ” (polar area chart) .

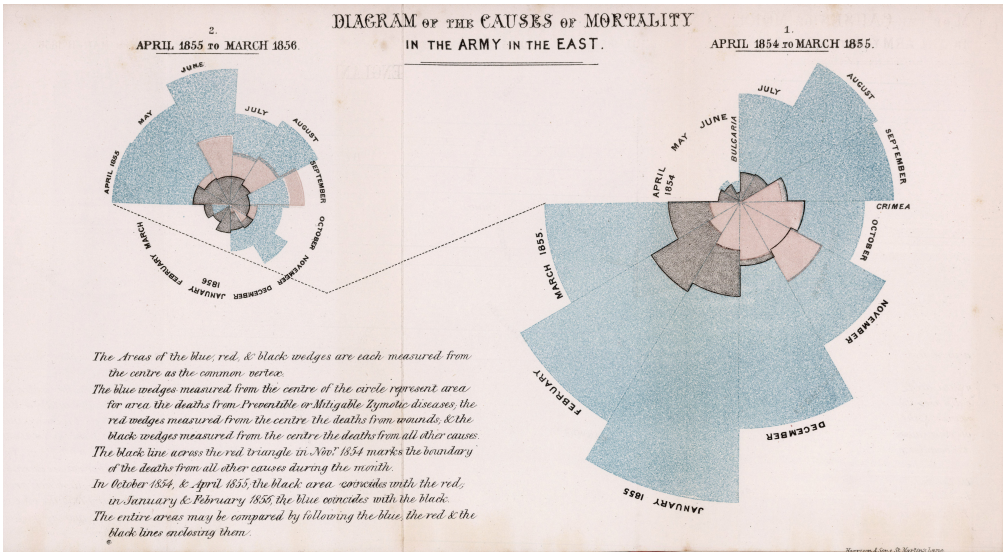


Figure 1: , “ ”. : .

“ ” (Hedley 2020).

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. (John Snow)
. (Broad Street) , (Snow 1854; Wikipedia contributors 2023).

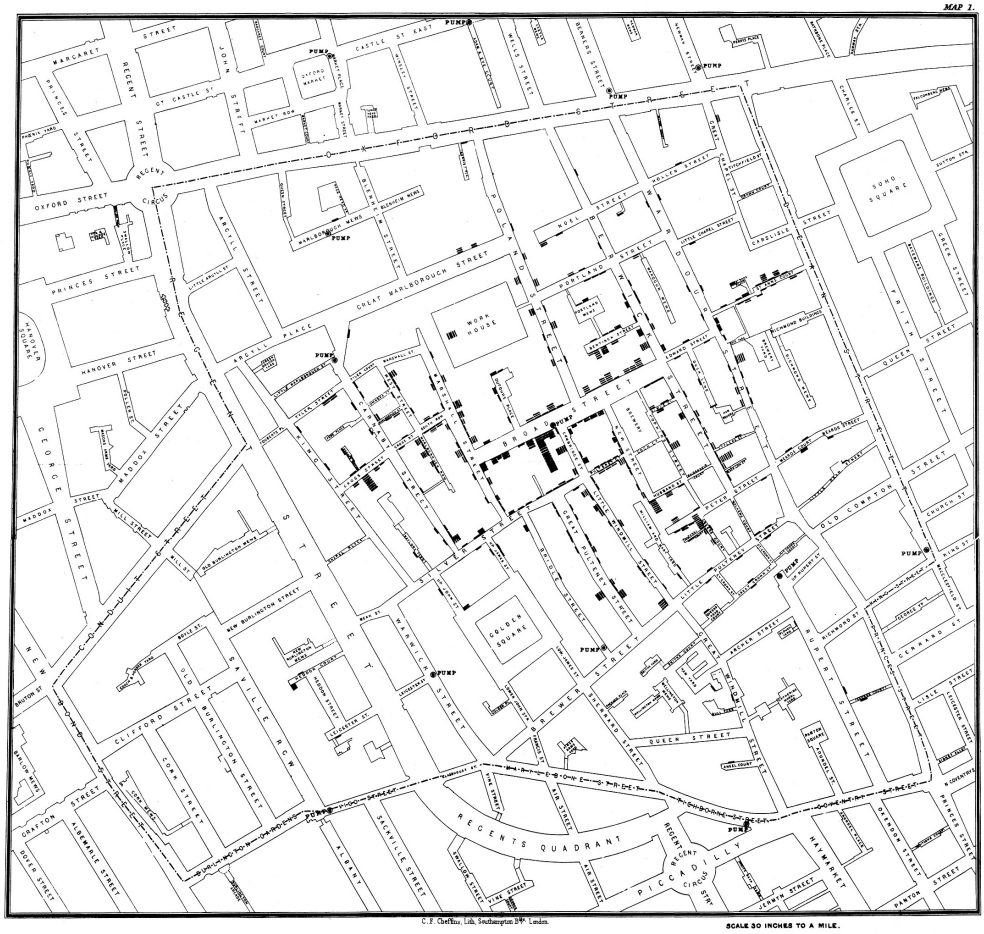


Figure 2: 1854 . : .

1861 (Minard) 1812/13 .

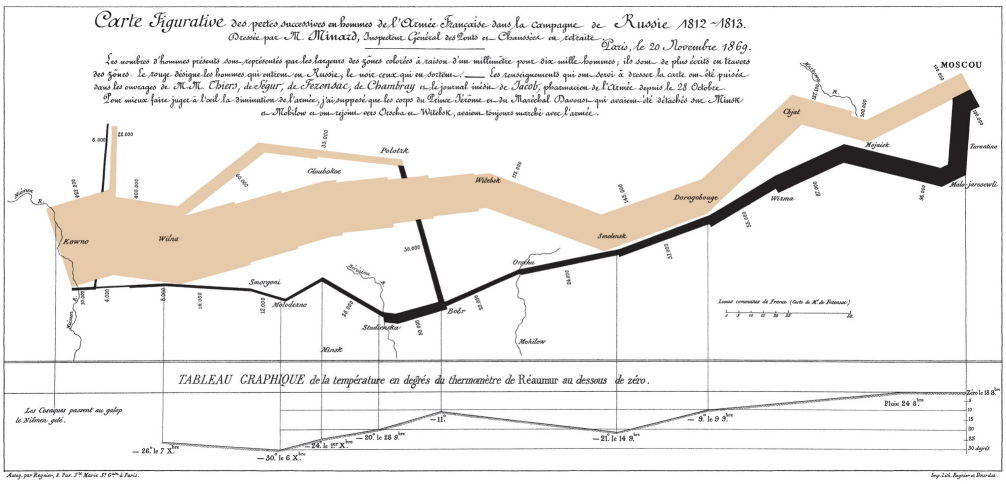


Figure 3: 1869 “1812-1813 ” . : .

. ( ) . . 6 (Tufte 2001; Corbett 2001; Robinson 1967).

1900 W. E. B. Du Bois , , (Du Bois 1900; Battle-Baptiste and Rusert 2018).

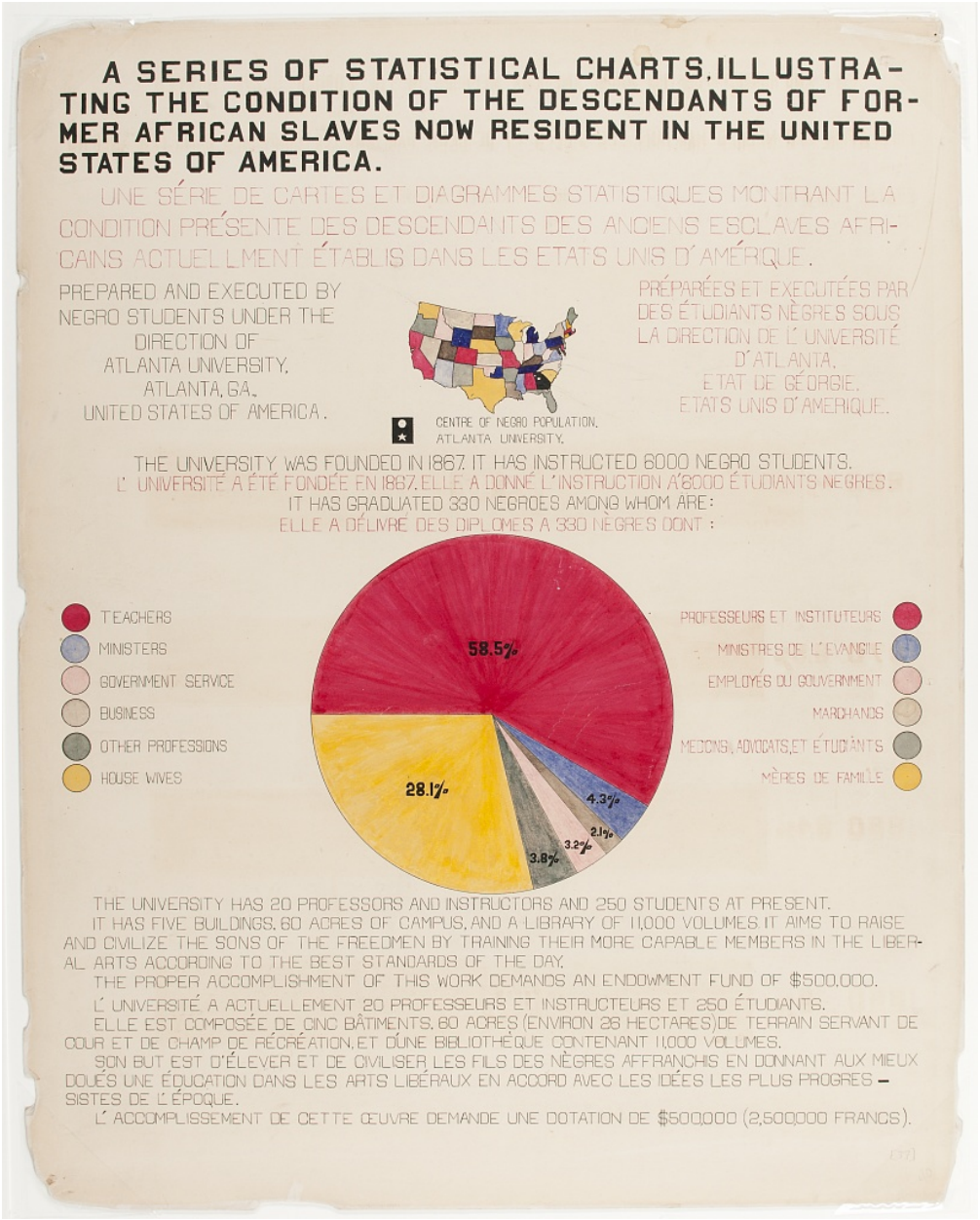


Figure 4: . , ca. 1900. //hdl.loc.gov/loc.pnp/ppmsca.33899. : .

(Exploratory Data Analysis)(Tukey 1977) (Edward Tufte)(Tufte 1990, 2004, 2006) .

(Michael Friendly) (Friendly and Denis 2005; Friendly 2018, 2022) .

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SAS (“Documentation” n.d.).

(Wilkinson) *The Grammar of Graphics*(Wilkinson 2005) ggplot(Wickham 2011, 2016) .

ggplot2 . . (Cleveland)(Cleveland 1993, 1994) , . 6 .
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(trellis) “trellis” (Cleveland 1993). Trellis S(Becker and Chambers 1984) S-PLUS(Becker and Cleveland 1996) . 1980 (Robert Gentleman) (Ross Ihaka) R(R Core Team 2021) , “trellis” (Lucent MathSoft) `lattice` (Sarkar 2008). ggplot (faceting, facet_grid facet_wrap) “lattice” “ (panels)” .

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