



From muse to machines: How Indian cottons steered the technological trajectory of the British cotton industry

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1. Historical background

The English East India Company introduced Indian cottons in Britain in the early 17th century, heralding the era of “frenzy” for cottons amongst British consumers.¹ Manufacturers were quick to imitate Indian cottons, using them as the market approved benchmarks for cloth quality, print, design and product finish. Early attempts at imitation met with limited success due to the inability of British spinners to spin fine yet strong warp yarn. The first English ‘cottons’ used linen for warp, resulting in a mixed cotton-linen cloth incapable of matching the texture, weight and fineness of the all-cotton Indian fabrics, specially the fine printed chintz and lightweight muslins.

2. Research question

Did pre-industrial Indian cotton textiles influence the growth of the nascent British cotton industry? What do the British and Indian fabrics of the 18th and 19th centuries tell us about the influence of Indian cottons on British industrialisation?

3. Textual evidence

Historical sources show that competition against Indian cottons directed the focus of British cotton manufacturers first towards the making of the all-cotton cloth and then towards the making of the *fine* all-cotton cloth.

“Nobody will buy till the India sale is over, we must make finer goods...”
Samuel Oldknow, 1787²

“About the year 1772 I Began to Endeavour to find out if possible a better Method of making Cotton Yarn than was then in General Use, being Grieved at the bad yarn I had to Weave.”
Samuel Crompton, 1802³

“The popularity of these [Indian] goods suggested the obvious desirability of making a still further approach to the Indian article by producing a fabric composed entirely of cotton; but in the absence of a machine capable of turning out a yarn hard and strong enough to be used as warp (hitherto supplied by linen), this was found to be impossible; and it was to the production of such a machine that the efforts of the mechanics of the time were directed”
Thomas Ellison, 1886⁴

4. Early print imitations on linen cloth

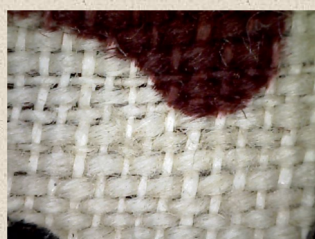
John Holker’s Livre D’Echantillons, compiled in 1751 by the English Jacobite spying for the French, contains early English imitations of Indian cottons on both mixed cotton-linen fabrics and all-linens. Muslins - the fine cottons - are conspicuously missing from this sample set.



English imitations of Indian cottons on linen (1751), John Holker manuscript, Museum of Decorative Arts, Paris



2. English cotton (1782)
184 threads per inch



1a. Previous magnified*



1. Early English cotton-linen mix fabric (1746)
115 threads per inch

5. Later design imitations on cotton cloth

‘The Textile Manufactures of India’ compiled by John Forbes Watson in 1866 contains 700 samples of Indian textiles put together with the explicit aim of facilitating their reproduction in Britain. Soon after, British manufacturers began patenting designs directly lifted from the samples within ‘The Textile Manufactures of India.’



Original Indian cotton fabric in ‘The Textile Manufactures of India’, compiled in 1866, Harris Museum, Preston



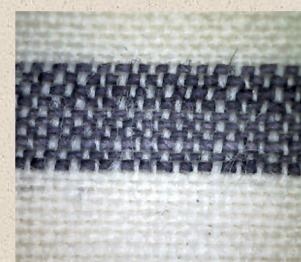
Design registered by Archibald Orr Ewing & Co. of Levensbank and Glasgow, 1879, No. 339344, Records of Patent Office BT43/433

6. Evolution of cloth quality and design, 1746-1816

Barbara Johnson’s album of textile swatches (1746-1820) is used to chart the quality of English cotton fabrics over the key decades of British industrialisation.

The textiles in the album show:

- ❖ Early English “cottons” are linen-cotton mixed fabrics in imitation of Indian cottons
- ❖ There is marked increase in thread count per inch over the decades
- ❖ First, the making of the all cotton cloth is perfected, followed by fine cotton cloth
- ❖ Evolutionary change in design motifs and prints is clearly visible



3a. Previous magnified*



3. English cotton (1809)
213 threads per inch



2a. Previous magnified*

6. Visual evidence - Evolution of cotton cloth quality and design, 1746-1816, Barbara Johnson Album, V&A

7. Conclusion

Benchmark handmade Indian cottons - the precursors to their machine-made British successors - embodied the cloth quality, print, design and product finish, which the machine-made goods sought to imitate. The quest for improvement in cloth quality - to match that of the competitor Indian cotton cloth - underpinned the technological course taken by the English cotton industry.

Evidence shows that the ability to manufacture the all-cotton cloth was one obtained over decades of trial and error, with Indian cottons continuing to provide the benchmark for final cloth quality well into the 19th century.

References:

1. S.D.Chapman in C. Aspin, James Hargreaves and the Spinning Jenny, The Guardian Press, Preston, 1964, p. 34
 2. Letter from Samuel Oldknow to Thomas Oldknow, in George Unwin, *Samuel Oldknow and the Arkwrights*, Manchester University Press, Manchester, 1924, p. 97
 3. Letters of Samuel Crompton, in George Daniels, *The Early English Cotton Industry*, Manchester University Press, Manchester, 1920, p. 167
 4. Thomas Ellison, *The Cotton Trade of Great Britain*, Effingham Wilson, Royal Exchange, London, 1886, p. 13
- * Magnified up to x60 using Dino-lite digital microscope, AM4113T
All decorative motifs are from textile samples in ‘The Textile Manufactures of India’, Harris Museum, Preston

